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ABSTRACT

This report is organized to provide a complete, logical presentation of the major steps taken in the third phase of research on dynamics of dissemination of the Instructional Support System for Occupational Education (ISSOE). It reports on the confirmation and validation of the Phase II Final Report on Dissemination Issues and the Phase III Technical Report on Administrative Issues with practitioners in the field. Part 1 presents project background and objectives and summarizes results of phases 1 and 2. Part 2 is a summary of the technical report on implementation problems of competency-based vocational education at the local level. In part 3 is presented a detailed discussion of the design and development of procedures for validation of administrative and dissemination issues in competency-based vocational education. Part 4 contains results of the surveys of teachers and administrators to validate the problems and concerns identified with implementation and the measures identified to resolve the problems. Part 5 reports on cross-validation of the technical report which involved obtaining teachers' and administrators' rankings of the problems, concerns, and solutions identified in the technical report. Project dissemination, articulation, and evaluation are the focus of part 6. The survey instruments and project correspondence are appended. (YLB)

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ISSOE

Managing Student Progress

Final Report

Validation of Technical Recommendations

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* * * * *

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Final Report

Validation of Technical Recommendations

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Research Pub. 81-02

ACKNOWLEDGEMENTS

One of the major problems facing educational administrators today is the question of how to introduce, and nurture, significant changes in educational practice to more fully meet the changing needs of American society. This report represents the third, and concluding, phase of a systematic study of the process of dissemination and implementation of instructional innovation in occupational education.

Phase I of the project was concerned with an analysis of what were proported to be the theoretical issues in the introduction of change in educational practice. Phase II was concerned with the application of what is known from theory and research, about the dissemination of innovation, to a specific program in competency based vocational education, i.e., the instructional support system for occupational education. The result of this effort was a monograph detailing specific questions regarding the dissemination of the ISSOE system and recommendations for the maximization of that process.

Phase III of the project was concerned with the analysis of the administrative issues associated with implementation of Phase II recommendations and the confirmation, and validation of that analysis against the practical experience of a wide variety of teachers, managers and administrators actually working with the system.

The administrative issues identified in Phase III were published earlier as a special technical report of Phase III. The purpose of this report is to report on the confirmation and validation of the Phase II Final Report on Dissemination Issues and the Phase III Technical Report on Administrative Issues with practitioners in the field.

This report represents the work of many individuals. The project was originally designed, and initiated, in early 1978. Dr. Vernon Beuke took responsibility for the management of Phase I. Dr. Dennis Ridley subsequently assumed responsibility for Phase II and continued with that responsibility for Phase III. Dr. Steve Farrar, currently Assistant Dean of Allied Health Studies at Ithaca College, contributed significantly to Phase I of the project while a Research Assistant at the Institute. He subsequently contributed significantly to the final phase of the project. He was the principal author of the technical report on administrative issues.

Dr. Mary Margaret Carmichael, Research Associate in the Institute, and Frances Schorr, Research Assistant, contributed significantly to the development of the survey instruments on which the present report is based.

Drs. Vernon Beuke and Clinton Walker assisted in the development of the survey plan. Dr. John Bowers was responsible for the development of data analysis procedures, and Mr. Edward Kulick, from the Department of Education's Statistic Laboratory, served as statistical consultant.

Dr. Robert Frank provided overall supervision and consultation and provided central coordination of all Institute ISSOE efforts.

This project owes a special debt of gratitude to the many vocational educators, both teachers and administrators, who participated in the study. Particular thanks are due to Tricia Truscio and Susan Phipps, of the Broom-Delaware-Tioga BOCES who assisted in developing items for the survey instruments. Donald Hoak, Myrle Bauer, Rudolph Schneider, and Donna Keirsbilck were also especially helpful at various stages of project development.

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All of the ISSOE Regional Coordinators provided assistance in identifying teachers and administrators to participate in this study.

In addition, many of the Regional Coordinators provided feedback on the technical report.

The careful and conscientious work of Lois Snyder, who served as secretary for the project for most of its duration deserves very special recognition. Without her loyal support, and that of other staff members of the Institute, this project could not have been completed.

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PART I

INTRODUCTION

This report covers the third phase of research on the dynamics of dissemination of the Instructional Support System for Occupational Education (ISSOE). It summarizes the results of Phases I and II and discusses Phase III activities, findings, and recommendations.

This phase of research was designed to provide further documentation and substantiation of the results of previous phases, with an emphasis on the practical issues of implementation that face teachers and administrators. Conceptually the accomplishment of this broad objective required two distinct, but interrelated steps. First, the most up-to-date contributions in the field of educational innovation had to be reviewed and their direct implication for CBVE implementation extracted. This step was aided by the results of the Phases I and II, which are discussed immediately below. Second, and perhaps most crucial, the insights gained from previous research had to be validated against the perspectives of teachers and administrators who are most affected by CBVE implementation. As will be revealed later in the report, this step took up the major portion of the research effort, and involved more than one method of validation. Only in this manner could the results of the first step be firmly anchored in the field-based perspectives which are most relevant to implementation.

This report is organized to provide a complete, logical presentation of the major steps that were taken in the project. Part III, which is a detailed discussion of the design and development of validation procedures, may be skipped over by the reader who wishes to obtain a quick, but essentially correct, grasp of what the project accomplished.

Project Background

The dynamics of dissemination and implementation have been of major concern to ISSOE administrators since the beginning of the system in 1974. Early efforts at systems development involved only a small cadre of participants. Those early efforts were also small scale in terms of the geographic distribution of participants and the number of curriculum areas involved. Since then the system has grown to include more than 20 curriculum areas, hundreds of teachers and thousands of students.

Contributions of Phase I

Phase I, funded in March of 1978, involved a survey of the educational change literature to identify results that would be most applicable to ISSOE implementation. The project also drew upon the resources of prominent researchers and theoreticians in the area of educational change. Phase I then applied the models and specific methods suggested by these resources to the ISSOE system as it was at that time. The specific conclusions of Phase I need not be itemized here. The interested reader can review them in several publications: *A Review of the Change Literature with Implications for ISSOE Dissemination* (Beuke & Farrar, 1978); *Implementing Change in Occupational Education: A Compendium of Resource Papers* (Beuke, Farrar, & Ault, 1978); and *ISSOE Dissemination Phase I: Planning, Findings and Recommendations* (the Phase I Final Report) (Beuke, 1978). In addition, the reader will find an overview of Phase I in the ISSOE Dissemination Phase II Final Report (*Dissemination Issues: Phase II, Final Report*, Ridley, 1980).

While Phase I supplied a wealth of information about educational change in general, the applications to ISSOE were somewhat limited by the lack of systematic data on the ISSOE system. Moreover, Phase I recommended two essential steps toward implementation: detailed specification of the intended users of ISSOE products, and more detailed information on the characteristics of specific users, in the various categories of participants. Therefore, Phase I set the stage for the focus in Phase II on obtaining information on roles of the various participants in ISSOE, their linkages with other role participants, and the major areas of problems and concerns associated with each role. This information was regarded as essential, particularly for providing management and evaluation information important to decision makers.

Contributions of Phase II

The contributions of Phase II are discussed in the ISSOE Dissemination Phase II Final Report (Ridley, 1980). Phase II identified representatives of the major categories of participants in ISSOE. These participants included: Area Facilitators, Regional Coordinators, Directors of Occupational Education, ISSOE teachers, Team Leaders, the New York State Education Department, the Research Coordinating Unit, students, parents, local advisory committees and computer support personnel.

Phase II obtained information from a variety of techniques including interviews and appropriate documents to describe the various roles. This information included contributions, areas of decision making, linkages with other players, and the major problems and concerns of participants. The preliminary findings were validated by means of questionnaires, interviews and other methods.

The findings indicated a wide variety of activities within the designated ISSOE roles, but substantial consistency among role occupants. There was also some consistency across roles in the problems and concerns most frequently expressed.

Some of the problems and concerns that seemed to cut across roles most consistently were problems related to delays in the receipt of needed materials, delay in feedback from State administrators, and the need for more support for actual implementation. Also, some informants perceived a lack of long range planning for potential problems.

Phase II provided a significant step toward planning dissemination activities which are targeted to the characteristics and concerns of potential users. A clarification of the formal and informal channels of communication was also relevant for planning effective dissemination activities.

The specific findings regarding the characteristics and concerns of actual participants needed to be related more systematically to the broader perspective of the Phase I research, however. In addition, as stated earlier, the previous literature review needed to be extended to the types of innovation exemplified by ISSOE, i.e., to the problems and concerns of administrators relative to CBVE (or, at least, CBE) and the various measures to meet these problems.

Although Phase III was closely articulated with the previous two phases, it must be stressed that Phase III was also a response to a request from SED for advice regarding anticipated mandatory statewide implementation.

The immediate need was identified as the ability to respond to problems and concerns that participants anticipate as being important during that implementation. These anticipated problems and concerns may or may not be well-founded, and planners of implementation need to be aware of any possible mismatch between problems anticipated and problems actually experienced. The specific need embodied in this request was not particularly addressed in the Phase I literature review. Therefore, a new literature review, one more specifically addressed to the problems of implementing CBVE (or, at least, CBE), rather than to the problems associated with educational change in general, was proposed.

Project Objectives

The specific objectives of Phase III were to:

1. Identify problems and concerns associated with implementing CBVE locally, emphasizing those most relevant to ISSOE. This identification process was based on a search of previous literature, including studies of CBE (particularly CBVE) and educational change (drawing upon and extending work done in ISSOE-Dissemination Phase I). The focus was upon teachers and local administrators in occupational, component and comprehensive secondary schools. Information was included on the degree of correlation between problems anticipated and problems actually experienced.

2. Identify measures previously taken to resolve the problems and concerns found by activities under Objective 1, their degree of success, and their acceptability to local users. The identification process was the same as in Objective 1.

3. Validate the above problems and concerns (Objective 1) and measures taken to deal with them (Objective 2). Validation used a sample of teachers and local administrators (Directors of Occupational Education and first-line administrators above the teachers in component and comprehensive secondary schools).

4. Obtain teachers' and administrators' rankings of the significance of the above problems and concerns of the various measures proposed for coping with them.

5. Disseminate information on problems and concerns, strategies to deal with them, and related information regarding implementation of the ISSOE curriculum. In addition to standard efforts, this objective included dissemination targeted to the needs of various users.

6. Articulate project activities with other ISSOE-related projects occurring within New York State.

The first two objectives were to identify problems and concerns associated with implementing competency based vocational education (CBVE) at the local level and to identify those measures which have been taken to resolve such problems. These two objectives will be discussed together since they formed the substance for the technical report that was delivered on September 1, 1980. Work on these two objectives was done, therefore, concurrently, and the findings for each area are highly interrelated.

The importance of monitoring local problems and concerns relative to CBVE has already been documented in a preliminary fashion in previous research on dissemination of the Instructional Support System for Occupational Education (ISSOE). This documentation has taken two forms: a literature review on educational change in general (Beuke & Farrar, 1979) and a study of actual participants in ISSOE (Ridley, 1980).

In a sense, the work on the first two objectives represents an attempt to bring the two types of contribution represented by the previous reports into a closer juxtaposition. The obvious extension of the literature review was to the types of innovations exemplified by ISSOE, i.e., to the needs and concerns of administrators relative to CBVE (or at least CBE) and various measures required to meet them. Furthermore, the specific findings regarding the concerns of actual participants in ISSOE needed to be related more systematically to the broader perspective of the literature reviews.

Objectives 3-5 were based directly upon the technical report, first through an attempt to validate and discover the relative importance of the problems and concerns identified earlier, and second through targeted dissemination efforts. These activities took up the balance of the project time. The remaining objective, articulation, was a continuing concern throughout the project.

PART II

SUMMARY OF THE TECHNICAL REPORT

OBJECTIVES 1 AND 2

The following section is a summary of the technical report on implementation problems. The report was entitled "Managing ISSOE Programs/Administrative Issues: Technical Report Number One." This title is somewhat misleading, since the work in the report did not pertain to ISSOE *directly*. As stated previously, the report dealt with CBVE implementation at the local level to fulfill Objectives 1 and 2. This preliminary step was necessary to determine how the general findings apply to ISSOE, the goal of Objectives 3 and 4.

For the purposes of the technical report, "implementation" was defined as "insuring the actual fulfillment by concrete measures" (*Webster's New Collegiate Dictionary*). This implies that the materials and methods offered as part of the CBE program, (in terms of both classroom procedures and supporting administrative procedures), are actually being carried out.

The individuals who wrote the technical report were Drs. Steve Farrar, Dennis Ridley and Robert Frank. The primary author of the first section of the report ("Implementation Problems") was Dr. Farrar. This first section was the longest and most important part, and the one that had the most bearing on the first two objectives. The second and third sections, dealing with articulation with previous ISSOE dissemination research, and immediate implications and recommendations, were written primarily by Drs. Ridley and Frank, respectively. The author of each section read each of the following summaries for accuracy and conformity with the intended meaning of the original report.

Implementation Problems

The problems of implementing CBVE programs are essentially those of implementing any change in school policies and practices. This conclusion is supported by a careful review of the existing literature (as presented in the technical report which is summarized here). However, there is one crucial difference between CBVE programs and other innovations: CBVE's major emphasis upon student concerns. The work in the summarized sections of this report documented that difficulties arise when resources are inadequate to meet the student based concerns of teachers, administrators, and parents.

The problems and concerns regarding implementation that are identified in the review will be organized according to two categories: (a) personnel (or teacher) related problems, and (b) administrative related problems. These categories afforded a convenient breakdown of the major implementation problems and concerns.

Problems and Concerns of Teachers

Under the category of teacher related problems are such concerns as the changing role of the teacher, the competency or training skills of the teacher, the teacher's self-esteem, the goals of the innovator, and the approach implementation efforts take.

One problem ("role overload") is that teachers are often expected to change some of their teaching roles and maintain others without benefit of the time allowance and assistance they need to adjust to the new role. Administrators need to allow sufficient time for teachers to adjust to the new role as well as to learn precisely what the new role will entail. Also, to facilitate this process, face-to-face interaction and mechanisms for listening to and resolving teacher problems are extremely important.

In the implementation of CBVE the teacher's problems of adjustment are made more difficult by certain characteristics of traditional programs, as contrasted with programs in which CBVE is being implemented. These include instructor referenced standards, age/grade structure, time based instruction, evaluation, and teacher training. Briefly, these interrelated points were as follows:

- Instructor referenced standards: Teachers need adequate training to adopt standard criterion referenced grading procedures to replace the former standards (which vary greatly from one teacher to another).
- Age/grade structure: To replace age as the traditional criterion for advancement with more flexible, student-based criteria requires administrator and institutional support.
- Time based instruction: Teachers need specific training in classroom management procedures suitable for situations in which they do not gear instruction to the standard 50-minute period.
- Evaluation: Appropriate training is needed for gearing instruction to the achievement of specific competencies, and for the additional monitoring activities required.
- Teacher training: The purpose of teacher training is to develop familiarity with the innovation and shape up the new skills required.

Teachers must be thoroughly prepared to adjust to unfamiliar practices. Some techniques which have been found to be effective are: (1) shared decision making through consultation; (2) workshops and total staff involvement (including administrators); and (3) improved communications between all authority levels within all departments.

The review of personnel related problems resulted in a series of suggestions for use by the administrator or other individuals concerned with implementation. An abbreviated version of these suggestions follows.

1. Goals of the innovation should be compatible with formal goals.
2. Teachers' new role practices must be clear.
3. Face-to-face contact between teachers and administrators (of various levels) should be maintained.
4. Trust-building is essential.
5. Administrator expertise is essential.
6. Inservice training for teachers and administrators is necessary.
7. Those who adopt new teaching procedures required by the innovation should be appropriately rewarded.
8. Role changes must be made clear.
9. An "advocacy" group of credible and influential teachers can be extremely helpful in maintaining interest and motivation.
10. Problems giving rise to critical comments need immediate attention before newcomers become disaffected.
11. The change should be presented as building upon the previous good work of teachers involved in the change.
12. The implementation should not be perceived as a threat to the organization.
13. Tendencies of many people, including teachers, to maintain the "status quo" should be counteracted with rewards for attempted change (i.e., various types of acknowledgement, time and monetary resources).
14. Unrealistically high expectations should be avoided.
15. Teachers who are potential implementors should perceive an excellent prospect for adoption of the innovation by the school system.
16. Administrators should be sensitive to and attempt to relieve the fatigue that attends early implementation efforts.
17. The requirements should be simplified as much as possible.
18. All participants must perceive the need for the change.

19. Teachers need continuous help and support during implementation.

20. Participants must perceive the relative utility of the proposed change over past practices.

21. An individual or individuals who can "troubleshoot" and identify problem areas soon after they arise would be helpful.

Administrative Related Problems and Concerns

Under administrative related problems the report presented a synthesis of previous research on administrators' problems and concerns. Two fundamental tasks of implementation were identified. The first task of administrators is to respect the attitudes, knowledge and desires of their teaching personnel. This fundamental task follows from an adequate understanding of the nature of modern educational organizations. According to Hansen (1976) schools are not traditional bureaucracies, but rather "modern bureaucracies" in which both teachers and administrators have their spheres of influence. Teachers enjoy sanctions over administrators as well as administrators over teachers; e.g., they can withhold cooperation in various ways. Thus, in the implementation of innovation, the spheres of influence of both teachers and administrators must be respected. Except in rare cases where the authority structure is monolithic, administrators must respect the attitudes, knowledge and desires of their teaching faculty.

The second fundamental task of implementation is to recognize and anticipate the need for working out the "bugs" in the system. Administrators must provide teachers with everything they need to facilitate their required activities. As simple as this principle sounds, it is actually more difficult to practice than one might think. The difficulty lies in anticipating everything a teacher will need to do in the implementation of the program. The foresight needed is nearly impossible to maintain because no matter how thorough the planning of an administrator, unanticipated events will always occur. "Debugging" is a necessary function in the production system of sophisticated technological fields. This is even more the case in quasi-political, quasi-bureaucratic organizations such as modern schools. Thus, a period of debugging should be included as an institutionalized part of the implementation process. Not only is adequate time required, but also a specific debugging mechanism, which would respond quickly to user needs and problems, is highly recommended.

In addition to the two fundamental tasks of administrators discussed above, organizational factors and standard administrator coordination activities have been identified which influence implementation. The major organization factors which have been identified to influence implementation include the following:

- "Deformalization" at the lowest organizational levels. (That is, keeping organizational procedures as open as possible--at least during the early experimental period.)
- "Destabilization" of roles. (That is, encouraging input from all levels without the necessity to clear this input with those of higher rank.)
- Centrality of communication. (Insuring that communications requiring authoritative decisions are centralized--so that everyone knows where the "buck" stops.)
- Clear organizational lines of authority.
- Large organizational size.
- Avoidance of time delays.
- Mechanisms for training latecomers.

Standard administrative coordination activities include minimizing of duplication and maximizing of program integration, coherence, efficiency and effectiveness. These activities are particularly crucial in the early phases of implementation with its greater demands in terms of materials, time, clarification of goals, organizational changes, fatigue, etc.

Some of the problems inherent in the commencement of implementation are the following:

- Greater demand for materials.
- High expectations of new recruits.
- Lack of time to develop understanding of roles and authority lines.

Administrators must be well-prepared to cope with these problems. First, they must be willing to modify longstanding practices to accommodate a change. Second, they must be committed to this change, although their commitment must allow room for adjustments to the needs of local participants. In other words, the goals of the innovation and the goals of the local school district need to be compatible; if they are not, steps must be taken to bring the two into closer alignment. A third important ingredient of administrative practices is adequate planning to anticipate all needs that will be found in the day-to-day execution of the program. This planning should include assurances to all participants that the proposed change will not threaten their power but, on the contrary, will be an additional benefit for them. Fourth, it is extremely important that administrators have adequate money available to meet the necessary conditions of implementation.

Another series of suggestions was included in the report for dealing with administrative related problems. An abbreviated list is given below.

1. Administrators must respect teachers' legitimate spheres of influence.
2. They must also respect the professionalism of teachers.

3. A period for debugging should be provided.

4. Attempts to build trust should be an integral part of implementation.

5. Advocacy groups for both teachers and administrators should be organized.

6. Administrative expertise in the intended program is essential.

7. Administrative support of implementation is equally necessary.

8. Mechanisms must be provided for immediate and adequate attention to all actual and potential problem areas.

9. There should be attempts to increase risk taking and aggressive use of intended programs.

10. A clearly defined central authority structure is needed.

11. Diffusion of all communications, both formally and informally, is important; i.e., no participant should be left in ignorance of important developments.

12. The number of clearance points for teachers should be reduced.

13. Large organizational size enhances the chances for implementation.

14. All aspects of materials delivery should be clarified and emergency procedures should be made explicit.

15. Mechanisms for training new recruits should be accessible at the time of hiring.

16. The effects of decisions on other regional and organizational levels should be anticipated as accurately as possible.

17. Authoritative decision makers should be ready to take the reins in areas of high uncertainty.

18. It is essential to provide the means for delivery of needed resources at the early stages of implementation.

19. Administrators should take steps to offset the effects of fatigue and strain on teachers.

20. The organization must routinize many of the needs such as resource delivery after the early crisis phase is over.

21. Administrators should develop the capability of monitoring and modifying expectations of teachers.

22. The use of teachers' time in meetings should be carefully planned for maximum efficiency.

23. The advocacy group can act as a counseling agent for teachers who feel the strain in the early phases of implementation.

24. Policy makers need to provide necessary resources, sufficient money and adequate time for debugging.

Articulation with Earlier Dissemination Research

The technical report also attempted to relate administrative issues as disclosed by the literature review with earlier dissemination research. Many areas of overlap with Phase I were built into the project, since the literature review extended and built upon the review of change literature that was done in Phase I. Since this background was so inextricably a part of the literature review for this phase, the emphasis on articulation dealt with Phase II research. The intent was to relate the specific findings, regarding the problems and concerns of actual participants in ISSOE, to the broader perspective of the literature review.

Personnel Related Problems in ISSOE

Some of the personnel related problems that were found to apply particularly to ISSOE were the following:

- face-to-face contact between key participants;
- administrator expertise and support;

- monitoring of individual attitudes and dealing with disaffected participants;
- spotting problem areas and acting upon them.

These problem areas related to personnel have a common theme: it is important to anticipate and meet all of participants' needs with respect to implementation. Particular concerns include the need to interact directly with key administrative personnel, the need for clear guidelines on how to implement, and the need to have difficult problems resolved before they lead to poor attitudes toward the innovation. These problem areas were reported by many participants in the Phase II research. Lack of opportunity for face-to-face interaction between local participants and SED appeared to be one source of aggravation compounded by delays in feedback and needed support materials from Albany.

Administrative Related Problems in ISSOE

The following administrative problems that were identified in the literature review were found to be pertinent to ISSOE:

- mechanisms to deal with crises;
- feedback on administrative decision making;
- clearly defined authority structure;
- clarification of materials delivery with alternative procedures;
- dealing with peak demand for support materials;
- modifying expectations.

Some informants appeared to perceive a lack of long-range planning for potential problems. As discussed earlier, procedures for coping with emergency demands should be a part of the planning for the maintenance of the program. However, informants perceived a lack of such planning, or at least a lack of responsiveness to the problems they were having. Lack of clearly defined authority structure contributed to some of the frustrations reported by local participants. Participants did not appear to have clearly defined resources in the event of materials delays or other problems. All of these problems were present in a context of high uncertainty and peak demands for many participants. In addition, these participants appeared to begin their involvement in ISSOE with high expectations and enthusiasm. As pointed out in the literature review, perceived problems such as the above can be greatly magnified by unrealistically high expectations. These expectations, therefore, need to be modified and moderated.

Immediate Implications and Recommendations

In addition to articulating the findings which previous ISSOE research revealed, the technical report went on to list ten recommendations for immediate action. These immediate implications for ISSOE drew upon the 1979-1980 CIOE/ISSOE field test experience as the major piece of supporting evidence. They were believed to be the most crucial in that they demand immediate attention.

1. Face-to-face interaction between key participants in the implementation process must be maintained. Teachers should not be left feeling cast adrift--as many have--with no assistance in using all the materials with which they have been provided. Therefore reliable and knowledgeable personnel are needed to interact with those charged with implementation locally.

2. Continuous informal support from such personnel is needed in order to provide participating teachers with the confidence and competence to perform the various tasks required. The field test experience demonstrated that such support can be provided and that it is effective.

3. Steps must be taken to deal with "bad-mouthing" of ISSOE. Individuals in high levels of responsibility who openly criticize ISSOE in a non-constructive and disparaging manner can do incalculable harm.

4. Delays must be avoided at all cost, and promises for materials delivery should be made only if these promises can be fulfilled. The CIOE field test experience revealed that many participants received promises of this nature that were not kept.

5. Implementors of ISSOE, especially those in a position of leadership, need to support ISSOE publicly and believe personally that there is an excellent chance for ISSOE's successful adoption.

6. ISSOE teachers need to be provided release time from classroom teaching responsibilities to attend ISSOE workshops. By this simple expedient, administrators can avoid placing an extreme hardship upon teachers and creating undue fatigue.

7. A "troubleshooter," perhaps a Regional Coordinator, should be available for each implementation site. His or her role would be to identify problems that teachers are having, and propose solutions.

8. Teachers and administrators need to understand that implementation takes time and involves a period (sometimes several years long) of debugging.

9. Administrators, especially Directors of Occupational Education, must become thoroughly informed about ISSOE. However, the field test experience made it extremely evident that most administrators had only minimal, if any, knowledge of ISSOE.

10. More standardized procedures must be established for training and recruiting teachers in the ISSOE system.

PART III

PROCEDURES FOR VALIDATION OF ADMINISTRATIVE AND DISSEMINATION ISSUES IN CBVE

The third objective was to validate the problems and concerns identified in Objective 1 and the measures taken to deal with them as identified in Objective 2. Validation used an appropriate sample of teachers and local administrators, Directors of Occupational Education, and first line administrators above the teachers in component and comprehensive secondary schools. Activities under this objective were essentially carried out simultaneously with those of Objective 4. (Objective 4's goal was to obtain teachers' and administrators' ranking of the significance of problems/concerns and corrective measures identified in Objectives 1 and 2.

Validation Design

As a first step in fulfilling these two objectives, a research plan was written for internal discussion among project staff. This document served to guide the activities designed to meet Objectives 3 and 4. After detailed discussion and feedback, a revision of the research plan was made which served as a guide in the early stages of work on these objectives. Since, however, the research plan was not regarded as a rigid structure but rather a working guide, changes were made in the course of the project to better meet the requirements of fulfilling the objectives, and to obtain the most appropriate data available.

The first task identified in the research plan was to select an appropriate sample. This proved to be a more complicated task than might first appear. The proposal stipulated only that the sample include teachers and local administrators representing a variety of local programs, where experience with ISSOE has been most extensive. The difficulty in implementing this objective stemmed from the various changes in ISSOE at the state level during the course of this project. The considerations these changes raised included whether the teachers' program is within the CIOE field test of the reporting systems; whether the teachers' program is in the ISSOE catalog field test; and whether each teacher is designated by his or her ISSOE Regional Coordinator as a trained and experienced teacher. In discussions of these considerations, project staff decided to constitute the sample from among those teachers designated by their Regional Coordinators as involved in ISSOE, defined as: (a) having their primary teaching responsibilities either in one of the ten fields in which catalogs were being field tested, or in one of the six additional fields in which catalogs were under development; and (b) actually using one of the ten catalogs, or likely to adopt one of the six catalogs being developed. The ten areas being field tested were:

1. Automobile Body Repair
2. Conservation
3. Cosmetology
4. Machine Trades
5. Plumbing
6. Practical Nursing
7. Retail Merchandising
8. Small Engine Repair
9. Agricultural Mechanization
10. Combination Welding

The additional six areas with catalogs under development were:

11. Food Occupations
12. Carpentry
13. Automotive Mechanics
14. Bricklayer
15. Electrical Trades
16. Health Services Occupations

While errors and ambiguities are inherent in the designation "ISSOE teachers," the above method was chosen for the following advantages: (a) broad, fair representation of the various ISSOE areas; (b) good correspondence with the officially recognized ISSOE areas; (c) ease of accessibility to this information through the Regional Coordinators.

Regional Coordinators were selected as the source of information on the teachers involved in the sixteen catalog areas. An attempt was made to facilitate the procedures for reporting this information. Accordingly, a reporting form was developed for Regional Coordinators to identify ISSOE teachers by program area. Other information sought on the same form included the institution and the institution's address (see Appendix A for a copy of this form). A draft of this form was tested with the cooperation of a Regional Coordinator, Mr. David Robin of the Broome-Delaware-Tioga BOCES. Based on his experience in using the form, it was revised and prepared for distribution to the other Regional Coordinators. Prior to this, however, the Regional Coordinators were personally contacted by telephone. The purpose of the study was explained and the rationale for obtaining the list of ISSOE teachers was thoroughly explained. Regional Coordinators were also asked to give an estimate of the number of teachers in each program area, so that an appropriate number of forms could be mailed. The forms were sent with a cover letter which again stated the general purpose of the study, the rationale for obtaining the teachers' names, and detailed instructions for using the form (a copy of the cover letter is included as Appendix B). A stamped self-addressed envelope was also included to secure maximum efficiency in returning the information.

From the 14 Regional Coordinators active in ISSOE at the time of the mailing, 13 packets were returned. The total number of ISSOE teachers whose names and institutional affiliations were obtained was 560. A breakdown of the numbers of teachers obtained for sample selection, by region and program area, is included in Appendix C.

The ISSOE region which did not provide the names and addresses of teachers was sent a packet containing 30 teacher surveys and 5 administrator surveys. The Regional Coordinator was asked to distribute the surveys among a broad representation of teachers in the sixteen catalog areas, and to five administrators who were immediate supervisors of a number of the teachers included in the sample.

Rather than to select a sample out of the 560 teachers whose names were provided, it was decided to include the entire sample in the initial survey mailing. The reasons for this procedure were: (a) the relatively modest additional cost of mailing to all teachers; (b) the greater assurance of an adequate sample size; (c) the difficulty of selecting a smaller representative sample in view of exceedingly small numbers in some catalog areas/ISSOE regions.

The selection of administrators was also made by Regional Coordinators. Although the proposal specifically stipulated "Directors of Occupational Education and/or first line administrators," it was difficult to determine practically which individual filled this position in every case. The most accurate source of information as to teachers' immediate supervisor is probably the teacher; however, teachers were not a practical source of information given the likelihood that teacher and administrator surveys would be sent out at the same time. Thus, Regional Coordinators were asked to designate teachers' first line administrators at the same time that they provided other teacher-related information, despite the probability of some misidentifications and ambiguities.

Teacher Survey Development

Preliminary Steps for Item Writing

The primary vehicle for validation of the concerns of teachers was a survey developed from the technical report. This survey was designed to assess the major problems and concerns, and solutions related to implementation from the teacher's standpoint.

The first step in developing the survey was for staff to become thoroughly familiarized with the technical report itself. To do this the project staff not only studied the technical report, but read background materials which were most significant in writing the report, as recommended by the author of the section's implementation problems, Dr. Steve M. Farrar. This step was essential since Dr. Farrar had left the staff shortly after finishing the technical report. Although he was unavailable for further work as a project member, he was informally consulted and generously devoted his time.

As the second step, before beginning to develop the summary, project staff met and discussed questions they had concerning the content of the technical report. These questions dealt with matters of clarification (e.g., the exact meaning of "role change") and illustrations of the points made in the technical report. Project staff felt that this type of information was needed in order to develop a survey that would be maximally meaningful to teacher respondents. Furthermore, project staff felt that they needed to have a better overall understanding of the dynamics of implementation which formed the background of the technical report. This need stemmed from the fact that they had not been involved directly in the original literature review and writing of the technical report. Written primarily for administrators and planners concerned with ISSOE, the technical report was in no sense designed as a scholarly review for teachers. For this reason the conclusions and the practical suggestions developed from the literature were emphasized, rather than the evidence on which these conclusions and recommendations were based. While this emphasis was entirely appropriate for a technical report, it was not conducive to the more thorough understanding that project staff sought.

For the above reasons, interviews were conducted with Dr. Farrar on October 8 and October 15. Dr. Dennis Ridley and Dr. Mary Margaret Carmichael were the interviewers. Dr. Farrar helped to clarify the technical report by answering questions that called either for examples or for further explanation. Also, Dr. Farrar spent a significant amount of time presenting what amounted to an "oral essay" on the major themes and conceptual structure of the technical report.

The latter part of the interview with Dr. Farrar also served as a basis for developing items for the survey of teachers on implementation problems and concerns. In effect, Dr. Farrar identified five major themes which served as item "domains" from which items derive. The purpose of these domains was to assure that the survey would reflect the most important concepts identified in the literature. Without such an approach the danger was that project staff, who were less familiar with the literature on implementation, would develop too many items on one aspect of the literature and neglect other important aspects.

The five domains identified by Dr. Farrar may be briefly labeled and defined as follows:

1. Administrative Support: This centers on awareness and understanding, on the part of administrators, of the impact the innovation will have on the teacher. It includes knowledge of the innovation and how it translates into specific behaviors, as well as planning ahead and assessing the needs that teachers have.

2. Past Experiences: This involves the history of both the school and individual teachers in dealing with implementation. Teachers' previous negative experiences stand in the way of implementation.

3. Available Resources: This involves assessment of whether an innovation can be implemented, including whether the resources, technology, expertise, facilities, etc. are adequate.

4. Authority: The issue includes clearly delineated and well understood lines of authority.

5. Teacher Integrity: This idea emphasizes that teachers' influence in legitimate areas should not be violated and should be treated with respect.

In order to further clarify the technical report, lists of the major points under each of the themes were developed. These points were listed to provide a basis for writing items for assessing each major theme. It should be noted that there were clear relationships among the five themes. For example, "Administrative Support" was clearly related to "Available Resources"; one of the major forms of administrative neglect is the failure to assess in advance whether all of the resources needed are present. Similarly, the themes of "Past Experiences" and "Teacher Integrity" were related, since possible deterrents would be previous experiences in which teachers' areas of legitimate influence were not respected, and significant input into the process of implementation was denied. Thus, it was clear that the five themes identified by Dr. Farrar were related in various ways. This alerted staff to the possibilities of further reducing and consolidating the categories defined by these five themes into a smaller set of categories. However, for the initial phase of survey development these domains or categories served a heuristic purpose. They helped assure that item writers would more adequately sample the important domains in the technical report than they would otherwise have done. The "domain specifications" were, therefore, used as is in the first phase of item writing.

While writing items from the domain specification, the staff also searched for ways in which the various domains could be collapsed or consolidated into a smaller set and/or redefined for greater clarity.

One special item was included on the teacher survey which was not directly tied to any dimension reported in the technical report. This was a "control" item designed to correct any possible misinterpretation due to general skepticism or distrust of administrators and/or the administration of programs. The rationale for including this item was that an overall negative rating of the administration of ISSOE (if such a finding should emerge from the data), could be due to a negative assessment of administration in general. Thus, the following item was included as a possible check on the validity of this alternative explanation should the hypothetical negative rating of ISSOE administration be found:

> In general, I have been pleased with the
> administration of educational programs.

Obviously, if the typical response is to agree with this statement, the hypothetical interpretation of results discussed above would be considerably weakened.

For the first round of item writing, project staff generated items from the points listed under each domain. This initial round led to a total item pool of approximately 500 items.

Teacher Item Writing

Two teachers were recruited for reviewing and writing items for the implementation survey. These teachers were recommended by their respective Regional Coordinators as being experienced with ISSOE and articulate in providing feedback of the kind needed.

The purpose of this activity was to insure that survey items would reflect the actual concerns of experienced teachers. It was thought that this input would add considerable credibility and validity to the items in the survey.

The two item reviewers were first contacted by telephone and asked if they would be willing to react to the summary of the technical report. This first activity in which they participated was a type of cross-validation which is described later in this report. Their input served as background on which we could draw in asking them to be item writers.

Subsequently, the same two teachers were contacted and asked to participate in an item writing. This activity was fully explained in a letter that accompanied the necessary materials.

Both of the teachers were sent a listing of the major domains or themes in the technical report, along with a detailed listing of points under each domain. This was to serve as a stimulus for writing items. They were asked to write up to 100 items. They were also given some general instructions to insure that the items were fairly simple, easy to understand, meaningful to teachers, and variable in terms of positive and negative scoring.

Approximately 150 items were received from the two teachers. Preliminary item screening by project staff reduced this number to about 100 items, which were then reviewed by other project staff. A final list of approximately 80 items was developed from the teachers' input. These were broken down into two preliminary survey forms for review by other ISSOE teachers.

Evaluating Survey Items

A set of criteria was developed for preliminary screening of items (see General Criteria in Table 1). Staff members were instructed to screen out some items using these criteria and make suggested revisions for making other items acceptable.

Reviewers also were requested to keep the items categorized in the domains under which they were listed, and provide feedback on the adequacy of the domains.

For later stages of item review additional criteria were added. These criteria had less to do with the technical adequacy of the items than with their adequacy for testing the domains and with maintaining the face validity of the survey from the standpoint of the teacher respondents.

TABLE 1
GENERAL CRITERIA

Each item should:

1. be related to one or more of the domains, to one more than to the others (make a note if you feel an item is included in the wrong category).

2. mean the same thing to teacher respondents in all programs and situations in ISSOE.

3. have moderate wording, rather than extreme wording which might restrict the range of responses.

4. be unidimensional on its face. This feature deals in part with ambiguity and part with complexity.

   (a) Items should be clear about what is being asserted about whom. In the following two items, it is not clear whether the item comments on the respondents or on the other person(s).

   "I can do better than most people think I can."

   "I am afraid to go to the principal's office."

   (b) Make the directions and wording as simple as possible so that items will not also be measures of IQ or reading comprehension. This is important because respondents will differ a great deal in irrelevant characteristics such as IQ.

5. not require deep psychological interpretation; that is, the assertions should be ends in themselves, rather than distant indicators of positive outcomes.

6. be relatively unarguable as to which the positive response(s) is (are).

7. not force the respondent to pick from unattractive choices.

Item reviewers' rating (coded as + = I like it, 0 = indifferent, - = I don't like it) were summed across reviewers to give overall quality ratings. The preponderance of ratings were positive, which made it somewhat difficult to reduce the total item pool radically. For this reason, project staff assessed the final 300 or so surviving items with special attention to the adequacy of representation of the various domains. In the case of duplicate items or closely parallel items testing the same subcategory in a domain, discussion among project staff resulted in the selection of the preferred items. This process reduced the total item sample down to approximately 200 items.

The next stage of item review involved teacher assessment of items. Immediately prior to this phase, the surviving 200 or so items were assembled into five preliminary survey forms with approximately 40 items on each form. The representation of items on each form was approximately balanced with respect to each domain. That is, each form contained approximately the same number of items in the administrator support domain, the past experiences domain, etc. More administrator support items were represented than any of the other domains. Approximately twelve items per form were from this domain, with approximately seven items per form represented from each of the other four domains. One way in which the five forms differed was that three were developed entirely by project staff, while two were developed from the input of experienced ISSOE teachers.

Teacher item reviewers were recruited initially from among participants in an ISSOE workshop held in Syracuse on January 7, 1981. In lieu of the item review activity scheduled to take place at this workshop (cancelled due to inclement weather), some of the participants were contacted by phone and asked to review up to three of these survey forms.

Reviewers were given the following instructions:

1. Fill out each of the three survey forms you were given, as though you were in the sample that will be asked to take the final survey.
2. Read the attached summary of the technical report on implementation of CBVE (a two page single spaced summary was included with the survey forms).
3. Rate each item statement on this scale: + = good item; 0 = undecided; - = poor item. (Reviewers rated the "goodness" of item in terms of its relationship to the summary and the clarity of the item statement.)
4. Suggest any rewording that you feel is necessary.
5. Make general comments, if any, on the back of the relevant form.

These materials were hand delivered to teachers and instructions were made explicit in their presence. However, they were allowed to do the work independently and return the materials within one week in a stamped, self-addressed envelope.

In all, 17 item reviewers were recruited. They represented a variety of program areas and geographical locations.

Feedback from item reviewers was processed in the following way: scale responses and item quality ratings were tabulated in order to give summary descriptive statistics for each item; the few specific comments which were made were also recorded. Scale responses were then used to indicate roughly the variance in overall responses. Too little variance would suggest that the item is not very revealing of significant differences among teacher respondents. The item quality ratings were summarized according to the number of positive responses minus the number of negative responses. The net difference between positive and negative responses indicated roughly the quality of each item as perceived by teachers.

Essentially, these criteria were applied to decide among items which measured the same or nearly the same concept. As discussed below, the judgments of what the important concepts were and how the items fit these concepts were made by Dr. Steve Farrar. Teacher judgments of quality and variance among teacher responses, were then applied to arrive at a relatively small number of items which represented the important concepts in a fairly uniform manner.

Teacher Demographics

In addition to the rating scale items developed for the major part of the survey, demographic information was also obtained. This information is essential to providing a meaningful interpretation of the results.

The first item in this section was included to determine the subjects which teachers "currently teach with ISSOE catalogs." The wording of this item was (purposely) somewhat ambiguous as to whether the teacher was actually teaching with the catalogs, or were merely teaching one of the pertinent subjects while using the catalog in some other way (e.g., SED catalog field test). The point of the item was to see whether results of the rating scale items, reflecting attitudes toward the program, had any consistent relationship with particular ISSOE subject areas. In fact, no relationship would be surprising, as attitudes can certainly be shaped by differences in the completeness, currency, or overall quality of particular ISSOE catalogs with which the participant has had experiences.

Several background questions were included to assess either the type of involvement, or the extent of involvement in ISSOE. Obviously, the content in which ISSOE/CBVE has been encountered, and the extensiveness of teacher involvement, can have a bearing on attitudes and commitment toward, as well as knowledge about, ISSOE/CBVE.

Items on the context or the type of involvement included questions regarding:

- type of school
- role in ISSOE (teacher, lead teacher, etc.)
- size of classes in which ISSOE catalogs are used.

The last item was included because project staff had heard the comment fairly frequently from teachers that class size can have a significant effect on the success of implementing ISSOE/CBVE.

The extent of involvement was evaluated by one question regarding the number of years associated with ISSOE.

Items that dealt simultaneously with both the extent and the type of involvement included:

- participant in the SED catalog field test?
- participant in Cornell/ISSOE field test?

The role of participant in the two field tests appeared, from feedback staff received from the field, as not merely qualitatively different types of involvement. The two programs also offered the possibility of comparing a marginal type of involvement, without extensive guidance in implementing ISSOE/CBVE, with the provision of fairly extensive technical assistance and resources. This rather subjective impression, however, was in need of more systematic support; hence, the inclusion of these two questions on the survey.

Two other questions measured the number of years of full time teaching experience and the teacher's age. Despite the possible sensitivity of some teachers to answering the last question, it was included in view of the number of comments made by ISSOE participants that the older, or the more experienced teachers, tend to resist change. There was some indirect support for this view found in the literature. Due to the stress on role changes and the difficulties teachers experience making these changes, this was an important concept in the report. We therefore wished to see whether age, and/or experience, would interact with survey items measuring attitudes toward change, as is commonly believed by many teachers.

Finally, a question on sex was included. This item is a familiar fixture among demographic items, and a common variable in survey research. There was no particular reason to include the item, but no reason for excluding it either.

At the close of the survey, approximately one-third of a page was provided for additional comments, if any. There were two purposes for including this space for feedback:

1. To provide teachers with an outlet for comments they feel important enough to make, especially if the questions were unrelated to these comments;
2. To give evidence on the inclusiveness of the survey.

While many comments may be a further elaboration or corroboration of survey responses, an overall paucity of comments would suggest that respondents found the survey quite inclusive.

Validation of Teacher Survey Development Process

As discussed above, the survey development depended heavily upon the use of five categories which were derived from an interview with Dr. Steve Farrar. For the reader's reference, these categories were:

- Administrator Support
- Past Experiences
- Resources
- Authority
- Professional Integrity

These categories then were used to develop items for testing key concepts in the technical report. However, the correlating of these five dimensions or domains with specific points in the technical report was initially done without further input from Dr. Farrar. As mentioned previously, the domains served as a useful heuristic in developing numerous items. However, the validity of this development process rested upon the operational meaning assigned to these categories or dimensions by project staff, and upon the application of these dimensions to specific points in the technical report. Thus, it was felt necessary to validate these assumptions by asking Dr. Farrar to provide his input once again.

As a final stage in the development of the survey, Dr. Farrar was asked to visit the Cornell campus for one day to review the test items and provide a set of categories within each domain. These categories were the ones he believed to be most important, based on the literature review. By analyzing test items and comparing them with concepts or categories that he felt must be represented in the survey, Dr. Farrar helped project staff to identify any areas which were not adequately represented by items. This input also allowed the classification of items by a more valid set of categories so that the total item set could be reduced, while insuring that every important area was represented.

In brief, Dr. Farrar's input revealed that nearly every essential category was covered by an ample number of items. This conclusion permitted project staff to sample from among the items, those best suited to represent each category and sub-category, according to teacher and staff reviews. In those few cases where an important category was either not represented or inadequately represented by items, project staff were able to cull from the previous item pool a few items to fill in the gaps.

The detailed instructions given to Dr. Farrar are included as Appendix D. These instructions included the needed tasks for both teacher and administrator survey development, with the emphasis on the validation of the survey development process as described above. Briefly, the instructions related to the teacher survey were as follows:

1. Read and react to our domain specifications. (Are they adequate? Are there any major omissions? Is there extraneous material?)
2. Read survey items and rate them in terms of (a) theoretical importance, and (b) fit between the domains and the items. (Dr. Farrar was specifically asked to try to reduce the total item list by 1/2 according to these criteria.)
3. Make suggestions for other items if needed.

The total item pool at the time of Dr. Farrar's visit was approximately 200 (five draft survey forms of 40 items each).

The set of categories and sub-categories generated by Dr. Farrar were essentially based upon a critique of the domain specifications described earlier. This critique resulted in collapsing a number of redundant categories into fewer categories, adding a very few that were not represented, and eliminating some sub-categories that were not appropriate. Dr. Farrar then identified the items on each form which appeared to measure the appropriate concept in each sub-category.

Further discussion with project staff led to additional consolidation of sub-categories to eliminate redundancy across categories. Also, several of the more peripheral sub-categories were eliminated from consideration after discussion between Dr. Farrar and project staff.

As a result of these discussions, a final set of categories and sub-categories was compiled. This organization scheme can be found in Appendix E. The major categories, however, are presented in Table 2.

As can be seen from Appendix E, each of these categories was represented by at least one item in the final teacher survey. Many categories were also represented by more than one item, particularly when the category itself was complex. By this development process therefore, all or almost all of the important points made in the technical report were represented.

Using this category scheme together with teacher reviews of items, the total item pool was reduced to approximately 60. These items represented both the highest quality items as judged by teachers and the consensus of project staff, plus the most important items in terms of representation of important concepts.

In the few instances where categories were not represented by items that had been developed prior to Dr. Farrar's visit, the additional items needed were included among items that were pretested. Reviews on these specific items then formed the basis for the selection of the remaining items. The final survey of 60 items is included as Appendix F.

TABLE 2
IMPLEMENTATION ISSUES CATEGORY SCHEME

I. Administrator Support

Category 1. Support and positive attitude
Category 2. Personal interaction
Category 3. General knowledge of implementation
Category 4. Knowledge of teacher behaviors
Category 5. Administrative action

II. Past Experiences

Category 1. Effects of previous unsuccessful innovation
Category 2. Effects of previous unsuccessful implementation efforts
Category 3. Effects of censure of other teachers
Category 4. Effects of previous innovation on teachers' careers
Category 5. Effects of traditional practices

III. Resources

Category 1. Funding of programs
Category 2. Timeliness/Adequacy of materials delivery
Category 3. Quality of teaching materials
Category 4. Public Relations
Category 5. Availability of training personnel
Category 6. Usefulness of workshops
Category 7. Availability of "troubleshooters"

IV. Authority and Perceived Guidelines

Category 1. Guidelines of how modifiable each component of the innovation is
Category 2. Specifications of the individual responsibilities
Category 3. General understanding of how/where to report specific concerns
Category 4. Appropriate delegation of responsibility
Category 5. Provinces of authority clear; minimum of decision conflicts
Category 6. Effective administrative communication

V. Professional Integrity

Category 1. Perception of inservice training
Category 2. Perceived role in authority structure
Category 3. Perceived benefits to students
Category 4. Attitude toward program
Category 5. Teaching behavior, skills and patterns

Pretesting of Teacher Surveys

Three teachers were recruited to participate in pretesting of the survey. All were participants in the ISSOE catalog field test, two in the practical nursing field and one in cosmetology.

Instructions to these teachers were as follows:

1. Fill out the survey form.
2. Rate each item statement on this scale:

   + Good item, meaning is clear
   0 Undecided, the item should be revised
   - Poor item, not relevant, not clear

3. If the background questions are not clear, please comment on them.
4. Make specific suggestions for improving items that need revision.

The pretesting led to the conclusion that the draft form of the survey was essentially clear in its instructions, particularly in the background information. All respondents preferred a coded form to signing a tear-off sheet, for identification of teachers who had returned the surveys. Coded forms were, therefore, used.

Very few revisions in survey questions resulted from the pretest, and an even smaller number of items were dropped. Some of the difficulties in answering the questions stemmed from the fact that these teachers were not actually using ISSOE in the classroom. A question such as the following, therefore, did not apply for these teachers:

> "Being involved with ISSOE/CBVE has shown me the aspects of my previous teaching I should continue."

However, it was decided to retain the questions unless they were negatively rated by the teachers (which most were not), on the arguments that: (a) many teachers in the sample were expected to have minimal involvement in ISSOE, due to the ambiguities in the term "ISSOE teacher" discussed earlier; and (b) the sample selection process operationally defined "ISSOE teachers" as those listed by the Regional Coordinator in response to our request. Thus, we had to proceed on the assumption of some involvement in ISSOE even though we recognized that some teachers would be listed who did not regard themselves as involved.

The lack of difficulty with the background questions suggested that teachers would respond about as readily whether these questions were placed at the beginning or end of the survey. However, the decision was made to place them at the end, due to the possible negative reaction of some respondents to somewhat "personal" questions such as age.

In summary, few problems arose except for the inappropriateness of some questions due to teachers' self-perceived nonparticipation. Even these concerns, however, did not prevent teachers from filling out the surveys quite readily.

All of these respondents appreciated the presence of a space for open-ended responses at the end of the survey. This opportunity to express concerns probably has the intended effect of increasing the perceived validity of the survey, as well as identifying major sources of concern, if any.

Data Collection Preparations

Final preparation for data collection included the drafting of a memo to all 560 teachers in the sample, briefing them about the purpose of the study and asking for their cooperation. This memo then was sent as a cover letter (see Appendix G) and mailed together with the survey and a stamped, self-addressed envelope.

Prior to the mailing, code numbers were assigned to all surveys for convenience in processing data. A follow-up postcard was also drafted to remind teachers of the desired mailing date for final return.

Administrator Survey Development

Objective 3, validation of problems/concerns and solutions, was applied not only to teachers, but also to local administrators. A major portion of the technical report dealt with the problems and concerns from the standpoint of the administrator, and administrative activities involved in a successful implementation effort.

Establishing Item Categories

For the most part, it was felt that the technical report revealed parallel categories of concerns and solutions for both teachers and administrators. For example, the category of "Administrator Support" and various sub-categories associated with it are of equal concern to teachers and administrators. The differences in the validation of these concerns then are merely ones of emphasis and not primarily ones of substance. Thus, the development of an administrator survey was closely linked with the earlier development of the teacher survey. Since developing the administrator survey built on the results of the earlier development process and its validation, the actual labor required to develop a finished survey for administrators was much less than that necessary for the teacher survey.

As discussed earlier, Dr. Farrar was asked to provide a critique and categorization of teacher survey items in order to validate the teacher survey development process. At the same time he was asked to indicate those categories of items which were particularly important, in his view, to be included on an administrator survey.

Project staff then analyzed this input from Dr. Farrar and attempted to identify areas of redundancy or overlap across categories he indicated as most important. This process resulted in a list of collapsed categories which, as was discussed above, were used in the final selection of items for the teacher survey. The same category system with a few other modifications was used to develop the administrator survey.

The general steps involved then were the following:

1. For each category from the collapsed category system, items were selected which had already been selected for the teacher survey. This was done to provide comparable items across the two surveys.

2. For each category a "neutral" statement was written, i.e., a statement which reflected neither a positive nor a negative contribution on the part of the administrators or others. In many cases, this neutral statement was simply the heading of the category itself with very little editorial modifications. In other cases, these categories were revised to include important aspects of the category as contained in several key items on the teacher survey. The purpose of these adaptations was to capture the essence of the category in the form of a descriptive label of a factor which may or may not influence implementation. The administrator could then rate the item as to its importance in the implementation of CBVE.

Some examples of these items and their adaptation from categories are given below. The entire administrator survey is listed as Appendix H.

Teacher Survey Category	Administrator Item
Administrator's support and positive attitude (Category I.1)	The administrator's support and attitude toward the program. (Item no. 16)
Usefulness of workshops (Category III.7)	The inclusion of useful workshops. (Item no. 6)
Perception of inservice training (Category V.1)	The teacher's perception of the inservice training offered for the program. (Item no. 8)

In the interest of creating a brief, easy-to-take survey, the category system was collapsed somewhat more for this survey than for the teacher survey. For example, Domain 4, which dealt with lines of authority, was included within Domain 1 (Administrator Support) due to its close conceptual relationship with that domain.

The survey was designed to validate the technical report in the same sense that the teacher survey was designed to validate it. However, each one validated the report from a slightly different perspective. By indicating the degree to which each category is important, the administrator would essentially be indicating whether the categories judged most important in previous literature were also important in reference to ISSOE and CBVE implementation in general. The relative importance of each category could also be assessed by item ratings. Highest importance, for example, would be indicated by significantly higher average ratings. This was felt to be a better method of assessing relative importance than ranking as originally proposed, as ranking tends to put respondents into a forced choice situation where they may need to choose positively among alternatives in which they find no clear superiority of one over the other. The effect of ranking would still be achieved by ratings, however, through the comparison of average rating.

Administrator Demographics

In addition to the administrator ratings of dimensions or factors in implementation of CBVE, background information from administrators is also important in interpreting the results. Five pieces of information were obtained:

1. Type of school;
2. Number of years as an administrator;
3. Extent of involvement with ISSOE/CBVE;
4. Number of occupational teachers supervised;
5. Number of teachers supervised who are involved with or using ISSOE catalogs.

A sixth piece of information added to returned surveys was the number of the administrator's region.

These six pieces of information made possible the partitioning of data by broad classifications. For reasons which are fairly obvious, each classification probably represents a different type of experience with ISSOE. An experienced administrator at a BOCES, for example, may be involved in a more intimate way with CBVE implementation in the classroom than is a new administrator at a large, inner city occupational facility.

Pretesting of Administrator Surveys

Administrator surveys were pretested by two university, R & D personnel who have had extensive experience in administration at the secondary and postsecondary levels.

The former, secondary administrator provided the perspective of an individual who has been approached numerous times in the past with survey instruments similar to the present one. His feedback was useful in identifying the incentives and disincentives to responding, and pointing out practical ways to make the memorandum more conducive to a quick response. He found the survey itself extremely clear and easy to fill out.

The former, postsecondary administrator is also a specialist in evaluation and in the design of instruments for evaluation. His feedback was, therefore, technical though also extremely practical. He suggested changing the phrasing of two categories to help "key in" the respondent to the meaning of the scales. He also suggested changing the number of scale points for each response to make responding easier and more meaningful. Finally, he suggested changing the order of questions to its present sequence, to end rather than begin with items which deal directly with the administrator's role. This order would minimize the feeling of threat and facilitate response. He also found the survey well-developed and relatively easy to respond to. Finally, both reviewers recommended placing the background questions at the beginning of the survey.

Data Collection Preparations

As was done for the teacher data collection, a memo explaining the purpose of the study and asking for the participants' cooperation was drafted for the sample of 110 administrators. This memo was used as a cover letter (see Appendix I) and mailed with the survey and a stamped, self-addressed envelope.

Code numbers also were assigned to all administrator surveys for later ease in processing data. The follow-up postcard drafted for teachers was also deemed appropriate for the administrators.

PART IV
RESULTS OF THE VALIDATION SURVEYS

Teacher Survey Results

Teacher Demographics

The average teacher who responded to the survey had been teaching full time for 10.6 years, and had been associated with ISSOE for approximately 2.5 of those years. The great majority had been involved with ISSOE as teachers in a BOCES site. The sample was predominantly male (146 vs. 97), and the age of respondents averaged around 40.

The representation of the sample in subject matter areas (Question 1) varied greatly. Approximately 20 percent of the respondents indicated that they are not teaching with ISSOE catalogs. The remainder of the sample are listed by subject matter in descending order of representation as follows:

Program Area	N	Program Area	N
Cosmetology	45	Auto Body Repair	11
Automotive Mechanics	29	Conservation	11
Practical Nursing	27	Agricultural Mechanization	8
Electrical Trades	13	Carpentry	7
Machine Shop	13	Retail Merchandising	7
Small Engine Repair	13	Food Occupations	6
Combined Welding	12	Plumbing	3
Health Service Occup.	12	Other (various areas)	11

A large number of respondents did not complete Question 8 ("Approximately how many students are enrolled in each of your classes in which you currently use ISSOE catalogs?"). Apparently a large number of respondents do not use ISSOE catalogs for assistance in their actual teaching. Many were included in the survey by their Regional Coordinators due to their participation in the SED field test, since as Question 10 revealed, a large majority of respondents did participate in the SED field test. It is evident that participation in this field test does not necessarily require teachers to use the ISSOE catalogs for significant (to them) assistance in their teaching. In contrast, only 54 respondents were participants in the Cornell ISSOE Field Test where participants are assisted in making direct applications of ISSOE to their teaching situation.

Representation in the sample varied considerably by region. Four regions (1, 6, 8 and 9) accounted for over 100 survey respondents. Representation in the other regions varied from 18 (Region 11) to six (Region 5).

Nearly 40 percent of the respondents made additional comments at the end of the survey. An analysis of their additional comments will be presented later in this report.

Data Analysis: Domains Revisited

The Statistical Package for the Social Sciences (SPSS) was used throughout the data analysis. SPSS is a system of computer programs and data transformation procedures that is used widely around the country. It provides a wide range of options for statistical analysis and data manipulation. Information on the statistical procedures themselves can be found in numerous standard statistical texts, and will not be discussed in this report except as necessary to clarify the meaning of the results.

The first task of the analysis was to test whether the proposed classification of items from the technical report (Table 2) was supported by the results. This classification scheme represented the staff's best estimate of the types of items needed to validate the technical report. The scheme served the heuristic purpose of generating items and trying to assure that the important concepts were adequately tested. However, the validity of this procedure rests upon the presumed correspondence between the categories used to develop the survey and the categories that respondents brought to the survey. Teachers' perspectives could conceivably be so different from those of test developers that the survey development process would be in question, despite the careful steps taken to insure validity.

The procedure ideally suited for this first task is factor analysis. Factor analysis is a statistical procedure which shows whether some underlying pattern of relationships exists in the data such that the large number of individual questions may be reduced to a smaller set of item clusters or factors. If so, the factors themselves may be taken as the important variables for study. This procedure can considerably simplify the results and render them easier to understand and use.

The SPSS subprogram FACTORS was used to identify the factors which accounted for most of the variation among responses on the rating scale items. Eight interpretable factors were found to explain more than 49 percent of the total variation among responses. An item by item breakdown of the agreement between domains and factors in included in Appendix J. The eight factors are discussed and illustrated below.

Factor 1: Administrator Support. This factor closely matches the first domain which was used to build the survey. The description provided earlier still applies well to this factor.

> "This centers on awareness and understanding, on the part of administrators, regarding the impact the innovation will have on the teacher. It includes knowledge of the innovation and how it translates into specific behaviors, as well as planning ahead and assessing the needs that teachers have."

The following items were positively related to this factor:

> My local administrator actively supports ISSOE/CBVE. (19)
>
> My local administrator is ready and willing to work together with teachers regarding ISSOE/CBVE. (37)
>
> My administrator understands how ISSOE/CBVE should be implemented. (42)
>
> The practical classroom needs of teachers in ISSOE/CBVE are of concern to my administrator. (46)
>
> I can go to my local administrator almost any time with my problems and concerns about ISSOE/CBVE. (47)

Many of the items in this factor were highly correlated, which suggests that teachers do not make all the fine distinctions between types of support and expertise than an innovation requires.

Factor 2: Practicality for Classroom Use. The second factor contained a strong flavor of the teachers' overriding concern with practicality and effectiveness in meeting their teaching needs.

The following two items were the most positively related to this factor:

> I believe that ISSOE/CBVE helps produce a higher caliber of graduate. (20)
>
> ISSOE/CBVE makes it easier to teach effectively. (39)

The next three items were the most negatively loaded on this factor:

> ISSOE/CBVE is too complex and bureaucratic. (35)
>
> There is too much extra work involved in teaching with ISSOE/CBVE. (50)
>
> ISSOE/CBVE materials do not accurately reflect teachers' input. (51)

This factor did not correspond perfectly to any one of the five original domains, but contained an important aspect of Domain 5, "Professional Integrity". The original description of that domain was, however, too broad to correspond well to this factor:

> This idea includes the teachers' influence in legitimate areas which should not be violated and should be treated with respect.

The particular aspect of teachers' concerns that this factor captures is the teachers' estimate of whether the materials and resources provided in ISSOE actually help them teach, or have promise for helping them teach.

Factor 3: Teachers' Perceptions of Needs. The second factor appeared to assess those areas in which teachers perceive needs and make recommendations for changes. The emphasis also appears to fall on the need to learn exactly how to use and adapt ISSOE materials.

The following four items were all positively related to this factor:

> Teachers should be given released time to learn how to use ISSOE/CBVE. (4)
>
> ISSOE/CBVE should provide more time for inservice training for teachers. (25)

> It would be very helpful to have a full-time "troubleshooter" in ISSOE/CBVE. (29)
>
> Teachers need more opportunities to observe other teachers in their own subject using ISSOE/CBVE. (53)
>
> More should be done to inform local employers about ISSOE/CBVE. (45)

This factor was a combination of parts of two of the original domains: Domain 3, "Resources," and Domain 5, "Professional Integrity." The emphasis in this factor was on the needs for promoting understanding of ISSOE/CBVE, especially teachers' understanding, through adequate exposure and opportunities to learn.

Factor 4: Teachers' Orientation and Training. The fourth factor reflects teachers' awareness of the importance of the information and training they receive.

The following three items were positively related to this factor:

> I know where to seek assistance in ISSOE/CBVE when I need help. (2)
>
> Newcomers to ISSOE/CBVE are given a thorough orientation. (15)
>
> I was adequately trained in ISSOE/CBVE. (57)

The following items were the most negatively related to this factor:

> Meetings on ISSOE/CBVE are generally unproductive. (38)
>
> The communications I get on ISSOE/CBVE don't give me the information I really need. (41)

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This factor was most closely related to the original Domain 4, "Authority and Perceived Guidelines". This domain was defined in the following way:

> The issue includes clearly delineated and well-understood lines of authority.

However, the items which measured this factor are only related to that aspect of Domain 4 which dealt with the teacher's need for timely help and information. As originally conceived, this domain stressed guidelines, specifications of responsibilities and provinces of authority, which were not included in this factor.

Small portions of other domains which touched on training and orientation activities were also represented in this factor.

Factor 5: Program Validity. The fifth factor measured teachers' general attitudes toward the program.

The following two items were the most positively related to this factor:

> Other teachers gave me a lot of support when I got involved in ISSOE/CBVE. (5)
>
> ISSOE/CBVE helps me maintain my teaching standards at a high level. (48)

The next two items were the most negatively related to this factor:

> Too many conflicting decisions have been made regarding ISSOE/CBVE. (1)
>
> ISSOE/CBVE looks like it was planned by people with little experience teaching occupational subjects. (56)

Not suprisingly, also, this factor was positively related to the special item constructed to measure attitude toward the administration of educational programs in general:

> In general, I have been pleased with the administration of educational programs. (9)

Some portion of two domains were most represented: Domain 4, "Authority and Perceived Guidelines", and Domain 5, "Teachers' Professional Integrity". The items in these domains which are most sensitive to judgments of the program's validity appear to deal with actual support in teaching or its absence versus perceived remoteness and irrelevance of the system from a teacher's standpoint.

Factor 6: Resource and Materials Availability. The sixth factor was most closely related to Domain 3, "Available Resources". This domain was originally defined as follows:

> This involves assessment of whether an innovation can be implemented, including whether the resources, technology, expertise, facilities, etc. are adequate to actually implement the innovation.

The following items were all positively related to this factor:

> The ISSOE/CBVE budget is adequate to meet the conditions that will arise. (21)
>
> I have received sufficient teaching aids so students can work at their own pace in the ISSOE/CBVE program. (30)
>
> I have found no real problems in my getting all the supplies that a new program like ISSOE/CBVE requires. (54)
>
> Resource people are usually on hand to help a teacher get started using ISSOE/CBVE. (55)

The important types of resources for this factor are the actual materials to be used, their availability, and the resource people who help teachers to use these materials. Other "resources" that were defined as part of Domain 3, such as funding, public relations, training and orientation, etc., were more related to other factors.

Factor 7: Teacher's Autonomy and Initiative. The seventh factor has most bearing upon the teachers' sense of autonomy and initiative in ISSOE/CBVE.

The following items were all positively related to this factor:

> My input into ISSOE/CBVE has been sought on matters which directly affect me. (17)
>
> The ISSOE/CBVE curriculum reflects what teachers think should be taught in the classroom. (27)
>
> Being involved in ISSOE/CBVE has shown me the aspects of my previous teaching I should continue. (28)
>
> I have sufficient freedom to use ISSOE/CBVE in my own way. (59)

Like Factor 5 (Program Validity), this factor is related to portions of Domain 4, "Authority and Perceived Guidelines", and Domain 5, "Teacher's Professional Integrity". However, the emphasis is on whether the system is perceived to encourage the individual teacher's input and discretion in how ISSOE is used.

Factor 8: Perception of Other Teachers' Willingness to Change. The last factor is most closely related to Domain 2, "Past Experiences." This domain was originally defined as follows:

> This involves both the history of the school, and the history of individual teachers, in dealing with implementation. Past experiences can be a major deterrent since so many innovations are ineffective and, therefore, teachers' previous negative experiences stand in the way of implementation.

Two items were positively loaded on this factor:

> Many teachers are willing to modify the grading practices they are accustomed to. (12)
>
> In our school most teachers are willing to give new programs a try. (22)

One item was negatively related to the factor:

> Teachers who are skeptical tend to hurt the chances of a new educational program. (6)

This factor differs somewhat from the original domain definition in that the accent is on teachers' willingness to change rather than the effects of previous innovations, previous implementation efforts, etc.

A complete listing of the way in which the survey items loaded on the eight factors is provided in Appendix K.

Summary: Correspondence Between Domains and Factors

While the correspondence between domains and factors was imperfect, all 5 of the domains were represented by one or a combination of factors. Out of 60 survey items, only 7 items did not strongly load on any factor.

Two of the domains were fairly well described by one factor. They were: Domain 1, "Administrator Support", which corresponded well to Factor 1 (same title); and Domain 3, "Available Resources", which was fairly well related to Factor 6, "Resource and Materials Availability".

Domain 2, "Past Experiences", was represented in an important sense by Factor 8, "Perception of Other Teachers' Willingness to Change".

Domain 4, "Authority and Perceived Guidelines", was somewhat represented by Factor 4, "Teachers' Orientation and Training Experience". Again, the focus on authority structure was not in evidence except as it affected the teacher's need for orientation.

Domain 5, "Professional Integrity", turned out to be even more complex than originally conceived, being measured in part by several factors (2, 3, 5, and 7). It is not surprising, in retrospect, to find that teachers' professional concerns about ISSOE/CBVE are complex because they interpret questions in terms of their most pressing concerns.

It is worth remembering that the domains were intended primarily for organizing and stimulating item writing rather than predicting the exact patterns of teachers' responses. With that said, however, there probably was a bias toward administrative perspectives, from the teacher's point of view, in the survey and (perhaps) in the technical report. This is shown by the failure of teachers' responses to reflect fine distinctions that an administrator might make as to how administrators support or fail to support teachers, how much advance planning they do, etc.

Validation of the Correspondence Between Domains and Factors

As a method of corroborating the verbal descriptions of the factors and their match to the original domains, two consultants, Drs. Steve Farrar and Robert Frank, were asked to provide their own evaluation of the correspondence between the eight factors and five domains. Their analysis was then compared to the one developed by project staff.

In order to familiarize the consultants with the factors and domains, they were given the following guides: a list of the factors and their respective items, a list of the domains and their respective categories and, very brief descriptions of both the factors and domains. Using this information, the consultants were asked to indicate which of the domains, if any, appeared to be contained in each of the eight factors.

In brief, the consultants' evaluation closely paralleled project staff's analysis. This nearly identical, independent assessment strongly corroborated project staff's conception of the match between the factors and domains. Further, after discussion to reconcile minor differences, a consensus was reached and project staff's original descriptions of the correspondence between the factors and domains agreed upon.

Teacher Rating Scale Results

Problem of validation. There is no one simple step from the survey results to a statement that they either do, or do not, corroborate the technical report. This is because, obviously, teachers' beliefs about what is important for implementation do not necessarily correspond with their judgments as to whether the favorable factors are at work in ISSOE/CBVE, as they have experienced the program. For example, teachers might believe that inservice training is important, but not a problem with ISSOE; conversely, they might believe there is plenty of inservice training, but disagree that it is an important factor.

One obvious indication that the results are not simply related to the technical report is the following. With very few exceptions, the average results tend to strike a balance between agreement and disagreement, very few items eliciting a strong consensus toward either side. The best explanation is that teachers' experiences with ISSOE/CBVE differ a great deal, and their judgments of ISSOE/CBVE vary accordingly, extreme judgments tending to "average out." This means that no simple profile of ISSOE implementation can be made. It also means that the overall results could not simply validate the technical report, even if items provided straightforward evidence bearing upon validation.

Two "exceptions that prove the rule" are the following items, which may be interpreted in a straightforward manner due (in part) to the overall consensus on these items:

> Teachers should be given released time to learn how to use ISSOE/CBVE. (4)
>
> Educational innovations often sound more convincing on paper than they turn out to be in reality. (26)

The majority of teachers agreed with these items, and agreement with these particular items corroborates important points made in the technical report, namely: that sufficient time should be provided for inservice training (Domain 5, Category 1), and previous unsuccessful innovations can make teachers skeptical (Domain 2, Category 1).

However, the overwhelming majority of items do not lend themselves to this type of summary, because (as stated before): either the meaning of a response is ambiguous as regards validation, or the average response is not extreme enough.

Validation Strategy. The following strategy was developed on the validation issue:

1. The factor analysis was used to develop eight "factor scores" for each respondent, these being measures of individuals' statuses on each factor based on their responses to key items. This considerably simplified individual response data to eight measures which, together, accounted for most of the variation among responses.

2. The expected relationship between factor scores and demographic items was determined by discussion among project staff. The direction of the prediction was based upon staff's understanding of the demographic response categories. It was also based upon the assumption that the relationships found would be as stated in the technical report.

Hypotheses Relating Demographic Information to the Factors. Using the technical report as a guide, project staff developed several hypotheses regarding the relationships between factor scores and demographic items. Findings that indicate such relationships would tend to corroborate important points made in the technical report. The points that seemed most relevant to the information provided by the demographic items included the following:

- the resistance to role change;
- the effect of added work loads;
- the importance of teacher involvement; and
- the need to establish face to face contact and trust.

Based on the descriptions of these concepts in the technical report, expected relationships between factor scores and demographic items were determined. These hypotheses are described below.

1. As indicated in the technical report, the implementation process must allow sufficient time for role changes to occur. Since older teachers, or those who have been teaching for many years, have spent more time acquiring their teaching roles, they might be less likely than those teaching for a shorter period of time to favor an innovation requiring a change of those roles.

   Thus, it was hypothesized that there should be a negative relationship between both age and number of years teaching and the following factors: 2 (practicality for classroom use), 5 (program validity) and 7 (teachers' autonomy and initiative).

2. Another point discussed in the technical report was the effect of an added work load on teachers' resistance to change. It might be expected that those teachers who have a larger, or a greater number of classes, will view an innovation requiring a heavier work load less favorably than those teaching fewer students.

   This led to the hypothesis that there should be a negative relationship between the number of students in a class and factors 2 (practicality for classroom use) and 5 (program validity). In addition, because of their greater needs, teachers who have larger classes should tend to agree with items in factor 3 (Teachers' Perceptions of Needs) more than teachers who have smaller classes.

3. The importance of involving teachers in all aspects of the implementation process was stressed in the technical report. Therefore, it was expected that those who have been more involved with ISSOE will have a higher regard for the program than those who have been less involved.

   This led to the hypothesis that there should be a positive relationship between the number of years associated with ISSOE and factors 1 through 7. It was also believed that those who have the added responsibilities of being a Lead Teacher or Team Leader will view the program more favorably than those who are involved only as teachers.

Teachers may also have had more of an involvement with ISSOE by writing lesson plans and evaluating catalogs as participants in the SED field test. Thus, there should be a positive relationship between this experience and the above factors.

4. Finally, one of the predominant themes of the technical report was the need for the establishment of face-to-face contact and the importance of building trust. The Cornell/ISSOE field test attempted to accomplish both goals. In addition, the field test served to enhance teachers' involvement in the implementation process and, as discussed before, this should affect teachers' perceptions of the program.

   It was expected, then, that those who were participants in the Cornell/ISSOE field test should hold more favorable views of this program than those who were not involved. There should be a positive relationship between participation and factors 1-7.

Hypothesis Corroboration. In order to test these hypotheses Drs. Farrar and Frank, were invited to formulate their own hypotheses regarding the relationships between demographic items and factor scores jointly. Since Dr. Farrar has been involved primarily with the theoretical aspects of this project and Dr. Frank, as Institute Coordinator for ISSOE Projects, has had the added experiential background, their combined effort was felt to be particularly revealing.

Most of the hypotheses formulated by the consultants were similar to those developed by project staff. One notable difference was the consultants' omission of any relationship between class size and the factors. After subsequent discussion among the consultants and project staff, this difference was resolved and the importance of the relationship confirmed.

In addition to formulating hypotheses based on the technical report, the consultants also developed several hypotheses derived from their own experience. These hypotheses involved the demographic items concerned with school type and gender.

Specifically, the consultants hypothesized that those teaching in a BOCES center would have a more favorable view of the innovation than those teaching in any other type of school. They also expected to find that females would indicate more agreement with the program than would males.

As part of the hypothesis generating process, the consultants were asked to indicate in which hypotheses they had the most confidence. They agreed that those involving teachers' participation in field tests and the nature of teachers' involvement in ISSOE were the hypotheses they most expected to be supported by the data.

Test of hypotheses. In order to complete the validation procedure described above, the relationships between demographic items and factor scores were examined and compared with those relationships hypothesized by project staff and corroborated by their consultants. In general, a close correspondence between the predictions and the actual results was not found. However, the results, while somewhat surprising, turn out upon further examination to be interesting and interpretable.

Hypotheses 1, which stated that older and more experienced teachers will have more negative views as measured by several factors, was not supported. Somewhat surprisingly, the number of years in teaching and teachers' age were not related to any of the factors. Apparently, attitudes and opinions regarding ISSOE must be explained more in terms of the teacher's experience with this particular innovation regardless of their amount of experience as a teacher.

Hypothesis 2 stated that teachers who had larger, or a greater number of classes, will view an innovation less favorably due to the heavier work load associated with implementing ISSOE in large classes. There was evidence that teachers who use ISSOE in two classes have a more negative view of ISSOE overall (program validity) than those who use ISSOE in only one class. However, the two other predictions (class size related negatively to practicality for classroom use and positively to teachers' perceptions of needs) were not borne out.

Apparently, class size is more related to Factor 7, or teachers' perception of whether they are encouraged to give their input and use their discretion in implementation. Teachers who have fewer students tend to have a stronger sense of autonomy and initiative. This may be due to a perceived necessity for teachers in larger classes to use ISSOE on a more routine and less experimental basis in order to make it workable for them. Assuming that teachers accommodate ISSOE to their large classes in this way, a lower estimate of practicality (Factor 2) or an increased perception of needs (Factor 3), as was predicted, would not be an inevitable result.

Interestingly, Factor 6, the availability of adequate resources and materials to support implementation, was found to be negatively related to class size for the second class which the responses listed. Class size and number of classes are two related factors which together can have a compounding effect on the evaluation of the resources provided. Apparently, teachers who have two classes using ISSOE materials judge the amount of support they receive in implementation (an aspect of program validity) to be less than those who have only one ISSOE class. If, in addition, their second class is large, teachers are less likely to judge the resources and materials they receive as fully adequate for the job they are being asked to perform.

Hypothesis 3 dealt with the importance of involving teachers in all aspects of implementation, and had three parts.

First, it was expected that the number of years associated with ISSOE would be positively related to the first seven factors. However, only Factor 7 (teachers' autonomy and initiative) was significantly related to the number of years with ISSOE; Factor 2 (practicality) was marginally related to this item. The lack of strong confirmation for this hypothesis could be due in part to the fact that the number of years a teacher has been involved with ISSOE does not necessarily measure "involvement in all aspects of the implementation process." In many cases, this involvement has consisted of curriculum development projects rather than "implementation," by any definition of that term. In addition, the number of years with ISSOE can have more to do with the participants' experiences and other characteristics which cause them to persist in the program rather than initimate involvement with implementation.

Nevertheless, it is interesting that those who have persisted in ISSOE tend to feel a greater sense of autonomy and initiative, and give a somewhat higher estimate of the practicality asociated with ISSOE. These results may be due in part to a greater integration of ISSOE involvement with teachers' professional role and identity, a process which, according to the technical report, can take a long period of time. A possible implication is that teachers should be encouraged to interact with those who are more experienced in ISSOE in order to gain the advantages of their perspective and to overcome any early objections they might have. This idea is, of course, found in the technical report in the discussion of the importance of advocacy groups.

Second, the type of involvement with ISSOE was predicted to have a significant relationship with the first seven factors. Specifically, being a Lead Teacher or a Team Leader was predicted to be associated with more favorable attitudes. This prediction was generally confirmed. Team Leaders tended to have the most positive views as measured by factors 2, 3, 6, and 7. Lead Teachers were less clearly distinguished from other teachers, who were also lowest on Factor 4. The picture that emerges is tht those who are only marginally involved (teachers) are unsure of ISSOE in terms of its practicality, whether they know how to use it, whether the orientation, training, resources and materials have been adequate, and whether they feel encouraged to use their own initiative.

But somewhat surprisingly, teachers were actually higher than Team Leaders and Lead Teachers on Factor 5 (program validity). Quite possibly, this result shows a degree of criticalness which those who have been well-integrated into the ISSOE system feel more free to afford themselves. This factor does not necessarily measure lack of commitment or alienation from the system.

Third, participants in the SED field test were predicted to have more positive views regarding ISSOE than nonparticipants. This was confirmed for Factor 2 (practicality) and Factor 4 (orientation and training). It is not known whether these results may be attributed to program involvement, prior characteristics of those who chose or were invited to participate, or some combination of these. The failure to confirm this hypothesis for the other factors may be explained as due to the rather low level of involvement in ISSOE/CBVE implementation that is expected while writing lesson plans and evaluating catalogs.

Hypothesis 4 dealt with the need for the establishment of face to face contact and the importance of building trust. Since the Cornell/ISSOE field test attempted to accomplish these goals, it was predicted that participants would tend to have more positive views of ISSOE as reflected in the first seven factors. This prediction was confirmed with significant results for Factor 2 (practicality) and Factor 4 (orientation and training), as well as near significant results for Factor 1 (administrator support) and Factor 6 (resource and materials availability). **In general, Cornell field test participants, as compared to nonparticipants, rated the materials and resources in ISSOE more useful, their training and orientation more adequate, their administrators more supportive, and the resources and materials provided for them more accessible.** While these results may be due, in part, to differences between those who chose to participate in the Cornell field test versus those who did not so choose, **the pattern of results suggests that the field test actually had a direct impact upon some of the most important factors which are directly related to the objectives of the Cornell field test.**

The failure to confirm this hypothesis for the other Factors (3, 5, and 7) may be interpreted as due to the fact that involvement in the Cornell field test is not necessarily a good indicator of how much participants have considered themselves well-integrated into the whole ISSOE system. This is a different aspect of involvement than are the provision of adequate resources, training and orientation, and the like. Integration of ISSOE involvement with one's professional role and identity has more to do with gaining status and recognition for this involvement, as the technical report suggested. The process of integration also takes time -- another point made in the technical report. Since many Cornell field test participants have only participated for a relatively short period of time, and many have not gained special status such as Team Leader or Lead Teacher, they have not had the opportunity to become fully integrated. Thus, they do not yet have the support and confidence they need in order to engage actively in constructive criticism and identification of needs (Factor 3). Nor do they yet feel comfortable giving their input and showing initiative in how they use ISSOE materials (Factor 7).

Aside from the specific hypotheses which were based on the technical report, the additional predictions, made by the consultants on the basis of their experience, received only modest support. The predictions of more favorable attitudes for BOCES teachers and female teachers were corroborated wherever significant differences occurred. For the most part, however, factor scores did not appear to depend upon either school type or sex.

It is also worth noting that Factor 8, "other teachers' willingness to change," was not expected to interact in a significant way with any of the background characteristics. This "prediction" of no relationship was borne out by the results.

Conclusions. The results of the above test of hypotheses should now be placed in the whole context of the major objective of validating the technical report. The reader should recall that no direct or straight-forward validation of the technical report was possible, since individual responses were usually ambiguous as regards to whether they reflected an evaluation of some aspect of ISSOE, a judgment on the importance of a factor involved in implementation, or both. Therefore, the above strategies were designed to test whether the technical report could generate useful predictions on individuals' variations as a function of demographic categories.

While the specific hypotheses which were tested above were by no means consistently confirmed, these results are partially due to several assumptions regarding the meaning of background items which, in retrospect, were questionable. For example, the assumption that the number of years spent in ISSOE measured a degree of "involvement" can be questioned. However, the above analysis reveals that the results are coherent and interpretable, and that many of the concepts which were set forth in the technical report prove to be useful in making this analysis. One concept which was extremely useful, for example, was that teachers need time in order to carry out a thorough integration of their role as a teacher and their role in ISSOE.

Another useful concept was the notion that **recognition or status as a participant in ISSOE is important in shaping teachers' attitudes.** The implications of these and several other key concepts, while not fully appreciated at the outset, have acquired greater significance for project staff as one outcome of the above analysis.

It is worth restating the point that the survey responses are necessarily limited to teachers' perspectives as revealed by a self-report format. There are, of course, strengths and weaknesses of such an approach. With reference to the technical report and its strong emphasis on administrative perspectives, the major weakness of teachers' self-reports is that teachers probably do not have the perspective needed to corroborate many points. Nevertheless, the technical report has proved useful in interpreting many relationships which would have remained obscure otherwise.

Teachers' Additional Comments

Additional comments were made more frequently by teachers than by administrators. Forty-three percent of the usable teacher surveys returned contained comments by the respondents. Their statements were categorized independently by two staff members who used the same six point category scheme that had been employed with the administrator surveys.

The foregoing analysis of survey results suggests that the additional comments should be treated with caution because those who made comments differed significantly from those who did not in several important ways. First, those who made comments tended to have a lower estimate of program validity (Factor 5) than those who did not comment. Second, they were more critical of the amount of orientation and training experience (Factor 4) they had received. Third, they were somewhat higher in their expectations of ISSOE/CBVE than others as reflected by higher scores on Factor 2. With these cautions in mind, the additional comments still provide interesting and useful information.

Due perhaps to the more lengthy and less homogeneous comments made by teachers, the two coders did not achieve as high a degree of achievement on the teacher surveys as on the administrator surveys. Approximately one-half of the teachers' responses were coded the same way on the first trial. After discussion to reconcile differences, however, a consensus was reached on all but a very few items. The quantitative aspects of this coding can be summarized briefly as follows:

1. Comments that were unfavorable toward ISSOE outnumbered those that were favorable by a count of 29 versus 16.
2. Few comments were made regarding the survey. Three responses were coded as being unfavorable.
3. Comments that corroborated either the survey and/or the technical report outnumbered those that did not by a count of 25 versus 3. There was also a relatively large number of comments that supplemented rather than validated the survey and/or technical report. Eighteen responses were coded in this latter category.
4. There were 28 comments that were coded as specific and nongeneralizable.
5. Four teachers requested feedback or some other information.
6. There were no unclear comments.

While a sizable number of comments were coded as being unfavorable toward ISSOE, many of these same comments were also categorized as corroborating the technical report. Examples of these include the following points.

- Specific teacher training is important.
- Adequate resources and funds are crucial.
- Appropriate rewards are needed.
- Administrative knowledge and support are important.
- Roles must be clearly defined.
- Periods allowing observation of other teachers are necessary.
- Teachers need to adapt to new roles.
- Excessive paperwork must be eliminated.

There were only three comments coded as not corroborating the survey and/or technical report. These statements can be summarized as follows:

- Criterion referenced measures should not be used.
- ISSOE catalogs are unnecessary for competent teachers.
- Attitudes rather than skills should be stressed in vocational classes.

Many comments were seen as being supplemental to the points specifically addressed in the technical report. The variety of these responses is evident in the following examples:

- Space restraints need to be alleviated.
- Bureaucracy makes ISSOE ineffective.
- More basic skills should be taught.
- There should be more concern with theories in the ISSOE catalogs.

A large number of responses were coded as nongeneralizable. Most of these involved the specific problems of individual teachers or their concerns regarding particular ISSOE catalogs.

In summary, more teachers, in proportion to their total number, than administrators chose to write additional comments. As was true for the administrators, many of the comments made by teachers tended to corroborate the technical report. In addition, both groups expressed similar corroborative statements. This lends further support for the quantitative analysis of the survey responses.

Administrator Survey Results

Administrator Demographics

The five background information questions on the administrator survey revealed that the average respondent was an experienced administrator, with 11 or more years of administrative experience. Sixty-five percent of all respondents were BOCES administrators. The average respondent devotes only a modest amount of administrative time to ISSOE. A little more than a third of the occupational teachers under his or her supervision are currently involved with, or are using, ISSOE catalogs. This amounts to approximately 12 out of an average of 30 teachers under each administrator's supervision. As expected, administrators who supervise more ISSOE teachers also supervise more occupational teachers overall.

The relationships between background information items should be borne in mind. BOCES administrators supervise, on the average, more ISSOE teachers than do administrators from other types of schools. They do not, however, supervise more occupational teachers overall. Administrators typically rate themselves as most involved with ISSOE if they supervise more than ten ISSOE teachers. These results suggest that the greatest familiarity with ISSOE, and perhaps the most telling results, are those of BOCES administrators who supervise the largest numbers of teachers who are involved with ISSOE.

The response rate for administrators was extremely high. Over 80 percent of the administrator surveys were returned in a usable form. The majority of the respondents had enough interest in the survey to request a summary of the project. A relatively small number of respondents supplemented their survey responses in the space provided with additional comments. (A brief analysis of these comments is presented later on in this report.)

The sample was reasonably representative in terms of region, with no region represented by more than 11 respondents. Most regions were represented by six or fewer respondents.

Administrator Rating Scale Results

The reader should recall that the administrator survey differed from the teacher survey in the way the rating scales were designed. The ratings were on a four-point scale in both surveys, but the similarity ends there. Instead of self-report statements with a rating varying from "strongly agree" to "strongly disagree," the administrator scale was made up of items like the following example:

	Very Important	Important	Somewhat Important	Not Important
1. The adequacy of program funding	4	3	2	1

Another important difference was that any response which corroborates the technical report would be in one direction only, i.e., toward "very important." (Teacher rating scale items were sometimes reversed so that a corroborative response could be either toward agreement or disagreement.)

One caution must be made in interpreting the results from the rating scales. Any corroborative response could be interpreted as due to the tendency to respond in the way which appears most obviously "correct," which would be (if anything) toward the "very important" end of the scale for all the items. Some bias in the response is therefore to be expected, making it difficult to conclude that positive average ratings on the items are *necessarily* corroborative. However, if further analysis shows that the rating scale responses may be meaningfully interpreted, by examining relationships among rating scale items and relationships between these items and demographics, then the corroborative statements that can be made will be more persuasive.

As with teacher surveys, the analysis made use of standard SPSS procedures to provide means, standard deviations and other descriptive statistics, together with correlations, frequency tabulations, cross-tabulations, etc. Factor analysis was not done due to the small sample size.

Means. The most striking result was that all of the means were toward the "important" end of the scale. With one exception, the average rating were between "very important" and "important," with only slight variation in the responses, all of which strongly supported the technical report. Since these ratings were so positive and close together, there is no valid way to convert the ratings to rankings among all the items.

The most highly rated items were the following:

- The delivery of materials at needed times.
- The quality of the teaching materials.
- The availability of qualified personnel for the training of teachers.

- The teachers' attitudes concerning the relative advantages of the program.
- The teachers' perception of how the new program will affect their teaching skills and practices.
- The administrator's support and attitude toward the program.

The lowest rated items were the following:

- The adequacy of the public relations used to promote the new program.
- The availability of qualified "troubleshooters" who handle problems as they arise.
- The effect on the teacher of previous successful or unsuccessful educational innovations.
- The effect of criticism or praise from other teachers. (lowest rating)

Insofar as ranking is possible at all from these results, one could say that the first group of items rank more highly than the second group. The administrators appear to emphasize the importance of the resources and the teacher's readiness and preparation to use them, as contrasted with the other items, such as certain previous experiences teachers may have had.

Correlations. The results showed a large number of positive correlations among scaled items. In fact, the overwhelming majority of correlations were positive, suggesting that the administrators found the various factors to be very interconnected in their effects on implementation.

Three patterns which emerged in the correlations were the following:

1. The 5 items which made up the "professional concerns of teachers" section of the survey were strongly related to each other. This cluster contains items regarding teachers' perceptions of: inservice training, their role, student benefits, program advantages, and effects on teaching.

2. Several items were fairly strongly related, bearing upon teachers' previous experiences and "troubleshooters." These items included several of those which were not as highly rated as most of the other items on the survey.

3. Finally, a group of related items was identified which was very similar to the "administrator support" domain as originally defined. This included the administrators' knowledge and expertise, familiarity with teachers' needs, and efficiency in providing the services teachers need such as resource persons and workshops.

Cross-tabulations. Little additional information was obtained by the cross-tabulations between demographic items and scaled items, only one scaled item being significantly related to any of the demographics. This item was:

The delivery of materials at needed times. (2)

Administrators who reported spending a moderate to a great deal of their administrative time on ISSOE/CBVE rate this item as more important than do others who are less involved.

Also, administrators at vocational schools (BOCES or 4-year vocational-technical high schools) rated this item as more important than other administrators. This finding is interesting since vocational administrators do not report spending significantly more administrative time with ISSOE/CBVE.

The importance of timely delivery of materials is, of course, a familiar concern which was emphasized in the technical report. The above results now suggest that as administrators become more familiar with ISSOE/CBVE they rate materials delivery as more important. However, apparently administrators at those sites where most implementation efforts have taken place (i.e., vocational schools) do not even need to devote significant portions of their administrative time to ISSOE/CBVE to believe more strongly in efficient materials delivery than do colleagues at other types of schools.

Administrators' Additional Comments

Slightly more than 20 percent of the usable administrator surveys returned contained comments by the respondents. After the bulk of the surveys had been returned, two project staff members independently analyzed these responses in terms of the following six categories:

1. Favorable vs. unfavorable comments on ISSOE
2. Favorable vs. unfavorable comments on the survey
3. Comments that corroborated, did not corroborate, or supplemented either the survey or technical report
4. Specific, nongeneralizable comments, i.e., comments which did not pass judgment but did reveal something about the respondent's unique situation
5. Specific requests for feedback from the survey or other information
6. Unclear comments

The two staff members who coded the responses achieved a good degree of agreement. Approximately two-thirds of the comments were coded the same way on the first trial. After discussion to reconcile differences, only four differences in coding remained. The quantitative aspects of this coding can be summarized briefly as follows:

1. Comments that were unfavorable toward ISSOE outnumbered those that were favorable by a count of seven to two.
2. No comments either favorable or unfavorable were made regarding the survey.
3. Comments made that corroborated either the survey or the technical report outnumbered those that did not corroborate them by a count of 8 to 1. In addition, three points were made that were coded as supplementing rather than validating the survey or technical report.
4. There were approximately four comments that were coded as specific and nongeneralizable.

As the focus of interest is on those comments which either corroborated or did not corroborate the technical report, the following summary will give the flavor of these comments. Those which corroborated the survey or technical report included the following points:

- local administrator support is important in successful implementation;
- specific teacher training is important to prepare teachers for new roles;
- adequate resources and funds are crucial to implementation;
- teacher fatigue through excessive paper work detracts from a new program;
- supplementary support for implementation is an important factor;

- teachers want to be consulted during the planning of an innovation;
- the past experience of teachers can make them skeptical.

The following was the only point that was coded as not corroborating the survey or technical report: the importance of converting CBVE into numerical grades was mentioned by one respondent.

Several further points were made (i.e., neither confirming nor disconfirming the technical report, but adding other points relevant to implementation, not specifically addressed in the Technical Report). Among the points made were the following:

- Some areas are not applicable to urban systems
- More problems in implementation have been found with more experienced teachers

In summary, most of the comments made tended to corroborate the technnical report, despite the fact that many of the same respondents made comments that were coded as unfavorable toward ISSOE. These results, while based on only a fraction of the total amount of respondents, do tend to further support the quantitative analysis of the survey responses.

Summary of Survey Results

The major results for the teacher survey are summarized below:

1. A factor analysis of the teacher survey results identified the following eight factors: administrator support, practicality for classroom use, teachers' perceptions of needs, teachers' orientation and training, program validity, resource and materials availability, teachers' autonomy and initiative, and perception of other teachers' willingness to change.

2. All five of the domains used in constructing the teacher surveys were represented by one or a combination of the above eight factors. Project staff agreed upon a verbal description of the factors and their correspondence with the domains. This evaluation was corroborated by two project consultants.

3. Several hypotheses were developed by project staff, and corroborated by project consultants as to how factor scores would vary depending upon background items. The items on which variation was expected were: number of years as a teacher and age, class size and number of classes, number of years associated with ISSOE, type of involvement, SED field test participation, and Cornell field test participants.

4. Teachers' responses to the survey items varied a great deal as a function to their backgrounds, as measured by the demographic items.

5. The hypothesis regarding number of years as a teacher and age was not supported.

6. The hypothesis regarding class size and number of classes was partially supported.

7. The hypothesis regarding number of years associated with ISSOE was supported only with regard to Factor 7, teachers' autonomy and initiative.

8. The hypothesis regarding type of involvement with ISSOE was essentially confirmed. In general, those who have participated only as teachers had more negative views toward ISSOE.

9. The hypothesis regarding the SED field test was confirmed for two factors.

10. The hypothesis regarding the Cornell field test was essentially confirmed for four factors.

11. Additional comments made by teachers were categorized by two project staff, who reached a high degree of agreement after discussion. Comments that corroborated either the survey and/or the technical report outnumbered those that did not by a count of 25 versus 3.

The major results for the administrator survey are summarized below:

1. Administrators' mean ratings of the importance of various factors for implementation of CBVE were consistently toward the "important" end of the scale.

2. The overwhelming majority of correlations among scaled items was positive, suggesting that the administrators found the various factors to be very interconnected in their effects on implementation.

3. The most highly rated items were those which dealt with timely delivery, quality of materials, and availability of qualified personnel. The items with the lowest ratings dealt with teachers' previous experiences and the need for troubleshooters.

4. The correlations among items revealed three clusters of items which appeared to measure (a) professional concerns of teachers, (b) administrator support, and (c) teachers' previous experiences plus the need for troubleshooters.

5. Administrators at vocational schools, where most implementation efforts have taken place, rate the timely delivery of materials as more important than do the other administrators.

6. Additional comments made that corroborated either the survey or the technical report outnumbered those that did not corroborate them by a count of 8 to 1.

PART V

CROSS-VALIDATION OF THE TECHNICAL REPORT

The fourth objective was to obtain teachers' and administrators' rankings of the significance of the identified problems, concerns, and solutions. This was conceived as a method of cross-validating the results obtained from the surveys. The methods used varied for teachers and administrators.

Teacher Cross-Validation

Validation Through Workshop Activities

An after-school workshop was conducted at the Broome-Delaware-Tioga BOCES on January 28, 1981. Thirteen teachers who are currently participating in ISSOE by using one of the completed ISSOE catalogs, were recruited by the Regional Coordinator for Region 8, Mr. David Robin. Teachers were told only that the activity was related to ISSOE implementation.

After a brief introduction to the project purpose, teacher participants were asked to read a two-page summary of a significant portion of the technical report, viz, that pertaining to teachers' concerns (see Appendix L). They were then asked to form pairs and use a prepared form to write in the requested information. This form contained the following questions:

1. What were the most important problems/concerns and solutions for ISSOE that you found in the report summary? (The solutions do not have to match the problems you list.)

2. What are the most important problems/concerns and solutions for ISSOE that you did *not* find in the report?

3. In your judgment, which findings in the summary (if any) *do not apply* to ISSOE?

These three questions were applied, in turn, to the major problems, concerns and solutions as teachers find them in ISSOE. Participants were requested to indicate up to five items in each category, or more if necessary, on which they could agree with their partner. They were then asked to *rank* the items within each category according to importance; i.e., most important = 1, second most important = 2, etc. Teachers had no difficulty completing this assignment within half an hour.

Results. The reader should note that the three categories include all possible evaluations of the applicability of the technical report's conclusions to ISSOE. That is, the participants were required to identify which statements in the report applied to ISSOE, which statements might have been made but were not, and which statements in the report did *not* apply to ISSOE. Presumably, then, good evidence of the technical report's validity would be indicated by many statements under category 1, few statements under category 2, and almost none under category 3. This result would indicate clearly that nearly all of the important points that could be made were reflected in the report, with no "excess baggage," or points of questionable importance.

With this in mind, the first striking result among the six completed forms was that the above expectation was fulfilled. By far, the most responses were given under category 1: the important problems and solutions were found in the summary. Thirty-four responses were written in this category. The second most responses were to the second category: the important points not listed in the summary. Nineteen responses were given here. Finally, only a handful of responses (five) were given to the third category: the findings in the summary which did not seem relevant to the respondents.

Responses to each of these three categories, broken down by problems/concerns vs. solutions, will be summarized below.

Under category 1, for important problems and concerns, the following points were listed by more than one pair of teachers.

- Inservice training for teachers and administrators (four pairs)
- "Troubleshooter" role is necessary (three pairs)
- Face-to-face contact is desirable (two pairs)
- Administrator expertise is necessary (two pairs)
- Teachers need continuous help and support (two pairs)
- An advocacy group of respected teachers would be useful (two pairs)
- Administrators should relieve teachers' fatigue (two pairs)

A variety of other comments were made by only one group including:

- Instructor referenced standards
- Listening to and resolving teacher problems
- Reward to teachers for adoption
- Teachers' role changes/practices must be clear

In sum, many points in the summary were found to be relevant to ISSOE. Those with the highest rank across teachers pertained to inservice training, face-to-face contact, administrator expertise, the "troubleshooter" role, etc. The focus of these statements appears to be upon administrator support and adequate preparation.

As regards solutions for category one, the following are representative of the comments which were highly rated.

- "Troubleshooter" role
- Workshops prior to the beginning of school
- Have administrators involved from the beginning
- Teachers' role changes should be clear

The second category on problems/concerns and solutions not found in the report elicited a smaller number of responses. On some of these statements it could be argued that the concepts were referred to in the summary. Nevertheless, a few of these items are listed below. As regards problems and solutions, the following points were made:

- Not enough instruction on implementation
- Give credit to teachers for their expertise
- Classes are excessively large
- "Advocacy groups" must have knowledgeable and experienced teachers
- Mainstreaming guidance is necessary

In short, these comments suggest that teachers wish even more emphasis had been placed on the daily problems that they will face in implementing competency based vocational education. They also reflect the teachers' concern that the expertise and professional contribution of the teacher be even more fully recognized than they thought it was in the summary. As regards solutions under this category, several were suggested of which the following are typical:

- Implementation workshops
- Followup on implementation through observation
- Class size smaller to permit individual work
- More space for independent student evaluation

These recommendations point out the teachers' very practical concerns with implementation; that is, how does one implement, especially given the class size and space constraints under which teachers must work.

Under the third category were a very few comments regarding points in the summary which the teachers thought did not apply to ISSOE. The following comments were made in regard to the major problems/concerns (no comments were made under this category for solutions):

- Time-based instruction
- All participants must perceive the need for change
- Age/grade structure

The above results may be particularly accounted for by the respondents' misunderstanding of what a term or terms in the summary meant (e.g., time-based instruction, and age/grade structure). The comment made by two groups that "all participants must perceive the need for change" does not apply is also interesting. It may be that participants do not see it as relevant when a change is seen as being mandatory.

In summary, very few comments were made under this category. One pair responded to this category by saying that the 20 statements seemed to apply very well.

Additional Teacher Cross-Validation

Additional cross-validation was done through individual telephone interviews with two teachers. One was a teacher of cosmetology in the western section of the state; the other taught business in the southern tier region. The latter was also included in the group study described above. Both women were experienced teachers and had taught with ISSOE materials for several years. Each interview took approximately one hour.

Before the interviews, each of the teachers had read the technical report and knew the three major questions that would be asked in the interview.

The first area of questioning was the most important problems or concerns that arise in teaching with ISSOE, and the solutions found to be most helpful.

One teacher mentioned the following items as those mentioned in the report that she too perceives as major areas of concern:

- There is a lack of communication of what teachers will actually be doing in ISSOE.
- Workshop topics are not relevant to current topics.
- There is a high turnover in leadership personnel.
- Resources promised at a certain date are not delivered.
- There is a reluctance of teachers to try something new or a feeling of threat that they are not needed.
- There appears to be a lack of training in new areas for teachers.
- There is a lack of knowledge on evaluation procedures to be used by teachers.

As can be seen by the preceding list, this teacher perceived the problems as concrete and specific.

The second teacher, equally experienced in teaching and in using ISSOE materials, phrased the problems in a more global nature. However, the basic concepts are similar. She perceived the following as major areas of concern:

- The teachers' changing role creates problems for them.
- Teacher's self-esteem should be reinforced.
- The goals of administrators should be clarified for the teaching faculty.
- A definite commitment to ISSOE from administrators and higher level authorities is important for teachers.
- Teachers require appropriate training in evaluation.
- Teachers need adequate inservice training.
- Improved communication between administrators and teachers is needed.

The common core of concerns from both interviews involves a strong need for communication and a need for inservice education.

The second area of questioning involved identification of the most important problems/concerns and solutions for ISSOE that were not found in the technical report. The first teacher had a single point to make in this questioning: changes in ISSOE frequently happen suddenly, without teachers being given advance preparation and training. This point is actually an elaboration of the need for communication mentioned previously. However, its specific application to ISSOE is that teachers are seldom prepared for the many and sometimes drastic changes that they see happening. She stated that this is both a problem of communication and one of organization leading to confusion as to what teachers are supposed to be doing.

The second teacher made several points in response to this question. They were:

- ISSOE is presented as something to use in addition to one's teaching practices rather than as something to assist one's teaching.
- Teachers feel isolated from other teachers.
- There is a lack of coordination of project, with frequent shifts in emphasis, and administrations that render past work in ISSOE obsolete.
- ISSOE should be more coordinated or integrated with what the teacher does every day.

The two teachers agree that there was an apparent lack of coordination in the project, leading to sudden shifts in emphasis without adequate advance preparation.

The third area of questioning concerned those findings in the summary which do not apply to ISSOE. The first teacher emphasized the following points taken from the summary.

- The goals of the innovation and those of the local school should be compatible.
- Requirements should be simplified as much as possible.
- Participants must perceive the relative utility of the proposed change.
- Teachers should not have expectations about the innovation.
- Those who adopt new teaching procedures should be rewarded.
- It is important to counteract the tendency of teachers to avoid taking risks.

The second teacher made two points which did not overlap with those of the first teacher. They were:

- The five points relating to instructor referenced standards, age/grade structure, time-based instruction, evaluation, and teacher training, do not apply that much to ISSOE. Her response to these was that it is unlikely that these traditional characteristics will change, but it is possible to work within the framework of the school to introduce CBVE even if these characteristics do not change. That is, CBVE should be adapted to the situation.
- Role overload is not particularly a problem in this teacher's experience because CBVE is not that new to the teachers.

While the responses of the two teachers were unique, reflecting their different positions, fields, and locations in the state, there was some consistency between the two. We may say that from the standpoint of experienced teachers in two very different regions, more problems and solutions were mentioned that were found in the summary than were not found there. Also, a relatively small number of points in the summary were judged to be irrelevant to ISSOE. The points that they especially emphasized as relevant in the summary revolved around a need for better communication and for more inservice education, while the other points made reflected some of their discontentment and discouragement with the actual administration of ISSOE. The latter remarks centered around lack of coordination and sudden administrator shifts stemming from the higher levels of organization. Finally, some of the points in the summary judged inapplicable appear to deal with either preparing teachers for the innovation (monitoring expectation, pointing out relative advantages, etc.) or with radically changing traditional characteristics. On the basis of earlier comments, these points probably did not apply in their judgment because these are not perceived to be the major concerns, as compared with administrative facilitation of changes within the existing system.

Administrator Cross-Validation

Cross validation activities for administrators involved telephone interviews with administrators who have had considerable experience with ISSOE. All four are Directors of Occupational Education in BOCES centers. Two are from the upstate region and two from downstate New York. These experienced administrators represent a variety of types of administrative experience as well as a variety of experiences with ISSOE.

After they agreed to participate, each one was sent a copy of the project's technical report together with the two page summary used in the teacher cross validation. Each was asked to read the summary. The three questions which guided the teacher cross validation also were sent to these administrators. These questions again were:

1. What were the most important problems/concerns (solutions) for ISSOE that you found in this report?
2. What were the most important problems/concerns (solutions) for ISSOE that you did not find in that report?
3. In your judgment which findings in the summary concerning problems/concerns (solutions) do not apply to ISSOE?

Once again, the above questions have a logical bearing on validating the technical report. For the technical report to be a valid indicator for all forms of CBVE implementation including ISSOE, one would expect many responses to the first question, and relatively few to the second and third. These expectations were realized: respondents averaged 14 different points in response to question one and between 2 and 3 responses to questions 2 and 3.

Summarizing the substance of their comments is difficult, due to the variety of viewpoints represented. Another difficulty is the fine distinction between points made which were problems or concerns and those which were solutions. Since these categorizations were made by the investigators, and not the respondents as was the case for the teacher cross validation activity, it is particularly difficult to make this distinction. Thus, responses to the three questions will be summarized without regard to the distinction between problems/concerns and solutions.

The following were the major points made in response to question 1:

- **Adequate teacher training is important.** All four administrators stressed this point, although each with a slightly different emphasis. Three mentioned advocacy groups in their role of helping teachers adjust to competency based vocational education. One stressed preservice training at teacher training institutions, and another stressed peer training for both teachers and administrators.

- **Teacher-administrator interaction is necessary.** Three of the administrators emphasized the importance of face-to-face interaction and indicated that trust-building was overemphasized in the report.

- **Adequacy/timeliness of materials delivery is important.** Three of the four administrators mentioned the problem of either inadequate materials or frequent delay in their delivery. The fourth administrator implicitly agreed with this point in referring to the suggestion in the report to make resource delivery routine and reliable.

- Two of the administrators also mentioned the problem of **overselling the program** and raising expectations too high.

A wide variety of other points were made in response to the first question. One administrator cited the majority of the suggestions in the technical report as being relevant. A characteristic comment by this administrator was the importance of working with teachers who have a positive attitude toward the program (this administrator minimized the role of administrator attitudes to the program at least in her region). Other points made were:

- Lack of long range planning.
- Need for troubleshooter.
- Need for administrative support at the state level.

In response to the second question--What were the most important problems/concerns (solutions) that you did not find in the report?--as stated above, fewer responses were made. The consistent theme of responses to this question, however, was that administrative support from the state level has not been as consistent as it might have been. Responses in this vein were the following:

- ISSOE should have been mandated.
- There is a lack of clarity on priorities.
- There is a lack of instructional support for implementation.
- There has been inconsistent leadership and an apparent lack of commitment to ISSOE.

It is not surpising that responses of this character were made to this question, since the report emphasized the problems/concerns and solutions experienced at the local level. Many of the problems and concerns of these administrators, however, pointed upward toward the state level of the management and they felt that these concerns were not as fully reflected in the report as the situation in ISSOE would warrant.

In response to the third question--Which findings in the summary, if any, do not apply to ISSOE?--a very small number of points were made by three of the administrators. They were as follows:

- Low risk-taking on the part of administrators did not seem a relevant concern.
- Large organizational size does not necessarily improve the chances for implementation.

- Role overload and fatigue need not be significant problems if teachers are adequately prepared.
- The emphasis on role changes in the report does not apply. Rather, techniques and competencies are needed.
- There is an overemphasis on teacher-administrator interaction. This should not be a major problem if the administrators are doing their job.

Summary of Local Administrator Cross-Validation

In summary, these four experienced administrators found many points in the summary with which they could agree and apply appropriately to ISSOE. All of them seem to feel that on the whole the technical report was a solid piece of work. Their criticisms of the report were in part unique to each administrator, thus making it unnecessary to conclude from this feedback that the report was inadequate in all of the points they raised. The one consistent comment on what they did not see reflected in the summary was that there was relatively too little emphasis on problems and concerns at the state or SED level and too much on the local level. The administrators did vary with regard to how important local administrator-related problems were in their regions. One felt that inadequate administrator concern did not apply in her region; another one admitted that a lack of support and preparation did characterize the administrators in his region including himself. However, all seemed to share a number of concerns that stem, in their views, from apparent inconsistent support on the state level. These concerns, as pointed out above, were not strongly represented as such in the technical report. Relatively more emphasis was placed on the problems, concerns and solutions from the standpoint of the local administrator. This difference between the report and the perspectives of these four administrators appears to be one of emphasis rather than of substance, per se.

Feedback from Regional Coordinators

Although not strictly required for the fulfillment of the contract, feedback was obtained in telephone interviews from four Regional Coordinators. The previous phase of research in ISSOE Dissemination (VEA Grant No. 80-3A-1113GS) had revealed that the ISSOE Regional Coordinator is, in general, the one individual in the local regions with both access to teachers and a good understanding of the ISSOE system and objectives. Therefore, it was thought for this phase of the research on dissemination the feedback from these individuals would provide another type of administrative feedback to supplement that provided by occupational education administrators. This feedback was also regarded as cross validation and was thus approached in the same way as the cross-validation activity reported above for directors.

All Regional Coordinators were provided with the technical report as background information when asked to supply the required information on who was participating in ISSOE in their region. In addition, four individuals agreed to supply indepth feedback through reading the technical report and responding to questions on it in a telephone interview. Three of these coordinators were from upstate New York and one from downstate New York. The interviews were fairly informal, as they were conducted in the context of receiving feedback from an established contact in the field. However, responses were organized according to the same three questions used above. Problems/concerns and solutions will be collapsed for the purpose of this analysis.

Again, a wide variety of view points was expresed. However, a certain consistency also appeared in a number of points made.

As before, many more responses were made to the first question-that is, the important problems/concerns and/or solutions which were found in the summary. An average of thirteen responses was made to this question. In contrast, the second question, on the most important problems/concerns (solutions) that were not found in the report, elicited an average of only 2.5 responses. To the third question--Which findings in the summary do not apply to ISSOE?--again an average of 2.5 responses were made. These results were in line with the expectations discussed above. In response to the first question, the following points were made at least three times.

- Teacher's role practices must be clear.
- Teachers may feel threatened and need appropriate rewards for getting involved.
- Administrator support and/or expertise were cited as problems with appropriate inservice training for administrators the recommended solution.

The following points were made by two coordinators.

- There is a need for face-to-face contact and rapport between teachers and administrators.
- Teachers need to be shown the relative utility of the innovation over other practices.
- A troubleshooter is needed to identify problems that teachers are having.
- The innovation must provide needed materials and resources.
- Time delays should be avoided.
- There should be a mechanism for training teachers and new recruits.
- A period of debugging should be provided.
- There should be a clearly defined authority structure.

- The use of advocacy teams of experienced teachers is recommended.
- The innovation should teach appropriate evaluation techniques to overcome instructor referenced standards.

Many other points were made, but by only one respondent. These points will not be summarized here. However, it is clear that many of the points in the summary were found to be relevant, both in the identification of problems and in proposing solutions to those problems.

In response to the second question (important problems, concerns and solutions), very few responses were made by three of the respondents. Almost all of the answers to this question had some reference to the State Education Department. Responses along this line included the following:

- SED should define what implementation means.
- The procedures stemming from Albany should be more consistent.
- There is a lack of clarity and direction stemming from SED.
- Most administrators currently hold a lame duck role.
- There is a lack of well developed channels of communication due to lack of funds.

It is debatable whether some of the points made in response to this question actually were covered by the various points made in the technical report. However, it should be borne in mind that many of these Regional Coordinators were particularly sensitive to changes occurring in ISSOE at the time these interviews were conducted, and, understandably, they tended to focus on these changes, which were not particularly salient in the technical report.

Finally, in response to the third question (which findings *do not apply* to ISSOE?), three of the four coordinators were quite complimentary to the report as reflected by their giving only two responses apiece to this question. Only one coordinator had serious and fairly extensive disagreements with the report.

Some of the points made were the following.

- Lack of trust between administrators and teachers is *not* a great problem.
- Teachers do *not* have unrealistically high expectations.
- Shared authority between teachers and administrators is unrealistic.
- Current occupational settings are not "modern bureaucracies" as described in the report.
- The emphasis on teachers' spheres of influence and professionalism would not make any difference.
- "Deformalization" and "destablization" are too idealistic.

In summary, the skeptical comments that were made in regard to the technical report appeared to center around the emphasis on professional integrity and providing for teacher input in order for an innovation to survive. The skepticism suggested that these ideas were commendable but only minimally related to the practical problems that they see in the field.

Cross-Validation Methods Compared to Survey Validation Methods

Since two methods of validation were used, interviews (individual and group) and surveys, it seems important to compare these two methods as to whether they provide comparable information.

This comparison was made possible by the existence in the sample of a few individuals who participated in both the survey validation and the interview cross-validation activities.

Four teachers who completed surveys were also participants in the cross-validation workshop. In order to compare the workshop results with the consensus from the surveys, the following analysis was done.

For each key point agreed upon by at least four participants in the workshop, survey items were selected which, in the judgment of two project staff members, provided the best test of that point. For each of these items the expected direction of response was also determined by discussion among the two project staff members. In some cases an agreement with the item was predicted and in other cases a disagreement was predicted, based upon the points that were made at the workshop. All of these judgments were made prior to examining the actual survey responses of the four teachers.

This method was chosen as a rough indicator of correspondence between survey and workshop results. In general, the predicted directions of responses on these items would indicate consistency between the two methods of validation. However, there were two problems with this test of consistency. The first obvious problem was that the four teachers represented only about one third of the workshop participants. It was possible they could have been a dissenting minority at the workshop on several of the points. The second reservation is that it is sometimes ambiguous how points made at the workshop relate to survey responses. For example, it would be possible for a teacher to say that inservice training for teachers and administrators is necessary and important while not finding that that is particularly a problem in his or her experience with ISSOE. The reverse is also true: a teacher might find plenty of inservice training in his or her experience with ISSOE and yet not agree with the point that it is necessary and important. Thus, the test of consistency between the two types of methods is far from perfect.

Nevertheless, as an indicator of consistency, the following comparisons can be made:

- For items measuring points that corroborated the final report, 14 responses were in the expected direction and 6 were in the opposite direction.
- For items measuring points that, according to teachers, should have been emphasized more in the report, or were not included in the report, 10 responses were in the expected direction and 4 were in the opposite direction. (No items were found to measure the points mentioned as not applying to ISSOE.)

Therefore, this brief test tended to support the consistency between the two methods of validation.

Even better evidence of consistency was found by comparing the survey and interview results of one cosmetology teacher who was individually interviewed. Again, most of the points this teacher made during the interview agreed with survey responses. There were eight specific points mentioned in the interview which were consistent with the answers to at least one survey item. Only four points were mentioned in the interview, but not specifically covered by the survey. Finally, there were no real points of disagreement between the survey answers and the interview results. Thus, the two methods of validation also appear to be consistent by this test.

For administrators, only one cross-method comparison was possible by the inclusion of one respondent to both methods. Again, the results generally supported the conclusion that the two methods provided comparable types of information with somewhat more varied information contained in the interview but not mentioned on the survey. Of seven points mentioned as important problems or solutions in the interview for which corresponding items could be found, five were given the rating of either important or very important by the respondent. The other two points were given the rating of somewhat important. Six points were covered in the interview but were not mentioned on the survey. This somewhat reflects a lack of consistency between the two methods. Some of these points were simply not included in order to limit the instrument to the points which project staff judged to be most important for administrators. Overall, however, the two methods appeared to agree fairly closely for this respondent.

In summary, based upon the limited data available, the two methods of validation appear to provide overlapping kinds of information which generally reinforce each other. Perfect cross-method consistency is not, of course, to be expected nor would it be desirable. This irreducible inconsistency reflects the fact that the strengths of one method tend to compensate for the weaknesses of the other method. This, of course, is the value inherent in cross-validating by means of a variety of methods.

PART VI

DISSEMINATION, ARTICULATION, AND EVALUATION

Project Dissemination

Activities related to the dissemination of this project's findings and results have involved a variety of techniques. Thus far, all dissemination and diffusion activities have involved instate presentations only; out-of-state presentations such as national conferences and professional meetings might also be desirable at some future time, with the approval of the State Education Department. Such presentations would not, of course, focus on the specific findings related to ISSOE, but on the general significance of the implementation survey. As discussed earlier in this report, the potential is great for the further development of this survey to provide profiles of the implementation process in varios CBVE programs. This proposed dissemination activity would be one ancillary benefit of this project which could be quite significant as a contribution to CBVE implementatin in general. The national visibility this would bring to the New York State occupational education programs would be worthwhile as well.

It should be noted that although only a handful of formal presentations were made related to this project, numerous informal contacts were established and maintained during the project. These contacts involved meetings or phone conversations with Area Facilitators, Regional Coordinators, Directors of Occupational Education, ISSOE Team Leaders, Lead Teachers, classroom teachers and others involved in occupational education delivery in New York State. Many of these contacts were part of the regularly scheduled project work involving sending to participants in the field copies of the technical report and soliciting their feedback on it. The results of these contacts are discussed earlier in this report. Other informal contacts, however, were carried out as an indirect result of project work in this project and other Institute projects. Often these contacts also included sending the technical report, either at the request of the individual or on project staff initiative, in order to maintain vital contacts and insure that key individuals are kept informed of the results of this research.

There were two formal presentations made regarding this project. Both were made by Dr. Robert Frank who, in his role as Institute Coordinator of ISSOE Projects, took the initiative in keeping key individuals informed about this project, while conducting other ISSOE related work throughout the state.

The first formal presentation was made at the ISSOE Statewide Meeting in Albany on December 15, 1980. This presentation was a brief description of the project, its purposes and methods, and the plan for completion of project work. At this time the cooperation of Regional Coordinators was solicited for best results in completing the project work. Also in attendance were selected SED staff and Area Facilitators.

The second formal presentation of this project's work was made at a January 7, 1981 ISSOE workshop in Syracuse, New York. At this meeting, Dr. Frank made a brief presentation to ISSOE teachers who were participating in the workshop, describing the project's purposes and methods and soliciting cooperation as possible item reviewers or pre-administration examinees.

Informal correspondence and communicators occurred with a number of individuals to whom copies of the technical report were delivered or sent. In addition to three Area Facilitators, 14 Regional Coordinators, four Directors of Occupational Education who participated in the project, and approximately eight professional members of the Institute staff, the following individuals also received copies of the technical report:

1. Dr. John Butler, Northern Catskill Occupational Center BOCES,
2. Mr. Edwin Komandarek, Director of Occupational Education, Herkimer County BOCES,
3. Dr. Wayne Dumas, Chairman, Department of Curriculum and Instruction, University of Missouri-Columbia,
4. Dr. John Voth, Professor of Education, Department of Curriculum and Instruction, University of Missouri-Columbia,
5. Dr. Rodney Farmer, Department of Education, University of Main-Farmington,
6. Dr. Richard I. Miller, Visiting Scholar, Cornell University,
7. Dr. Steve Farrar, Assistant Dean, Allied Health Professions, Ithaca College (several copies were taken by Dr. Farrar for his use as principal author),
8. Mr. Donald Grasso, Director of Occupational Education, Erie County BOCES #2,
9. Dr. Howard Friedman, Deputy Administrator, Office of Occupational and Career Education, City of New York Board of Education,
10. Dr. Kathy Takei, Chairperson, Department of Secretarial Studies, Bronx Community College.

The formal dissemination plan for the final report, as agreed upon with SED, of course, will be followed. This plan includes sending 29 copies of the report to the Division of Occupational Education Planning and Information, Research and Evaluation, Bureau of Occupational Research, for their distribution. This distribution should include the National Center for Research in Vocational Education at The Ohio State University, for their review and archival storage, and for possible inclusion in the ERIC Clearinghouse on career education. As also agreed upon in a formal dissemination plan, appropriate persons in SED in the Division of Occupational Education Instruction and Bureau of Occupational Education Program Development, also will receive copies of the final report. Copies also will be disseminated to CIOE staff and Dr. Farrar.

Results of the final report also will be sent to occupational administrators in New York State who participated in the survey and indicated their interest in receiving a copy of the results.

These results will be sent out, pending approval by SED, at the appropriate time, approximately 90 days after the final report has been submitted to SED.

Another technique of dissemination which is contemplated, pending approval from SED, is the inclusion of a brief report on the results of the survey in the RCU Newsletter. In addition, portions of future Career Commentaries may include reports on this research. By these techniques, the results will receive wide dissemination to a number of participants in CBVE implementation throughout New York State.

Project Articulation

The organization of projects within the Institute is designed to enhance the sharing of resources, both professional and financial. This organization benefitted the ISSOE project by minimizing duplication of resources and efforts, and making project work in general more efficient and effective.

The two major areas in which project articulation took place were in the development of the two surveys and in the coordination of effort between this project and other ISSOE related projects. These two areas will be discussed in turn below.

The development, design and analysis of field surveys are a major part of work at the Institute. It was therefore expected, given the organization of the Institute, that a major shared resource would be experience and expertise in survey development. While nearly all Institute staff contributed in some measure, those contributions which stem from the AVEA outcomes project were especially noteworthy. Project staff met on numerous occasions with Dr. Clinton Walker, Director of the AVEA project, to discuss methods for item development, review and construction. The item review criteria used in this project were adapted from those developed for use in the AVEA project (see Table 1). In other ways as well, the survey development process built upon the previous and ongoing AVEA project work and its project director's experience.

Other Institute staff contributed to item reviewing, critiquing test directions and writing demographics. They included Drs. Vernon Beuke, Robert Frank, John Bowers, Mary Margaret Carmichael, Dennis Ridley, and Ms. Francis Schorr. These individuals represented a wide spectrum of experience both in CBVE and in survey development for other projects.

The other major category of articulation was with related ISSOE projects. Aside from articulation which flowed directly from the Institute's mode of organization (i.e., shared project staff), this latter category of activities was enhanced by coordination of the ISSOE family of projects at the Institute, carried out by Robert Frank, Institute Coordinator for ISSOE Projects. This coordination led to many instances of shared responsibilities across ISSOE-related projects, as well as coordination of activities, particularly those which involved travel. Some specific examples of these coordinated activities are listed below.

1. Planning of the January 7 ISSOE Workshop included a project activity for dissemination. (This activity was cancelled due to inclement weather and nonparticipation of the key staff.)

2. Item reviewers were recruited from among the teachers who participated in the January 7 ISSOE Workshop.

3. Trips were planned and coordinated with the CIOE/ISSOE field test whenever possible (several instances of this occurred).

4. CIOE/ISSOE field test participants were recruited to give feedback on the summary of the technical report. Two of these teachers also wrote items for the survey.

5. Arrange for distributing the surveys using contacts made in other ISSOE projects.

6. Advanced planning for the dissemination survey distribution was coordinated with the work on instructional planning and the field test, by means of a presentation made by Dr. Frank on December 15, 1980 in Albany. This presentation was intended to minimize individual contacts for the three ISSOE projects concerned.

7. Contacts were made by Drs. Frank and Beuke at the New York State Occupational Education Conference in February, 1981. They asked occupational administrators to participate in the dissemination project. Four administrators agreed to participate by providing input on the technical report.

8. Similarly, contacts made during the dissemination research led to several requests for information related to other projects, e.g., AVEA and CIOE/ISSOE field test.

9. During data collection activities for dissemination in Syracuse and in Binghamton, project staff collected needed information from teachers regarding field test.

Cross-project articulation continues in relation to other activities-for example, in planning for disseminating project results after the termination of the project. For a further discussion of these activities, see the dissemination section of this report.

Project Evaluation

As stated in the original proposal for this project, each aspect of the project was subject to continual evaluation of both activities and products. There were no formal, written evaluations; however, project organization and the design of activities tended to facilitate ongoing evaluative feedback on virtually every aspect of the project. Evaluative input came from project staff and other Cornell staff, including the Institute Coordinator of ISSOE Projects, the Institute Director, and Department of Education faculty members who served as occasional advisors to the Institute and to the project. Also, evaluative feedback was obtained from appropriate SED personnel upon such occasions as the Statewide ISSOE Meeting conducted in Albany in December, 1980.

The major project activities of survey development, data collection, and analysis were designed to include a number of cross-checks on the quality of both the final products and information obtained. Some examples of these cross-checks were the following.

- Dr. Steve Farrar served as an advisor on survey development. As reported earlier, the surveys were found to be good measures of the essential concepts in the technical report as a result of this evaluative input.
- A combination of teachers and researchers served as item writers and reviewers, thus improving the overall quality and comprehensiveness of the survey items.
- The comparison of interview and survey methods discussed earlier found substantial evidence of consistency in the results across these different methods.
- The surveys were found to provide stable and reliable data according to standard statistical criteria.
- Both surveys were pretested by appropriate professionals and found to be clear and reasonably easy to complete.

In sum, the various cross-checks built into the major project activities insured that the survey instruments were both reliable and valid for the purpose for which they were designed.

In addition to these built-in sources of evaluative feedback, there also were several informal indicators of effectiveness. Significantly, over 80 percent of the administrators' surveys and nearly 50 percent of the teachers' surveys were returned. For the most part, respondents found the surveys easy to complete and relevant. This was especially true for the administrator survey which was designed for rapid scanning and completing. The teacher survey was not, of course, equally relevant to all of the nearly 600 teachers who received it. An extremely small number of negative comments reflected the greater complexity and difficulty of this survey as compared with the administrator survey. However, the very adequate return rate on teacher surveys indicated that the overall reception of these surveys was good.

The technical report itself, upon which most of the project work was based, appears to be one of the best received of recent Institute publications. Based in part upon its favorable reception from Regional Coordinators, Directors of Occupational Education, and others, the Institute has just completed a second printing of this report. This printing was designed to insure even greater accessibility and utility to occupational education professionals. Informal evidence of utility came from the number of requests received by project staff for copies of the technical report. (These requests are enumerated in the section of this final report dealing with project dissemination).

The timely completion of project work according to a specified schedule is always an important consideration. By this criterion as well, project work was effectively carried out. For example, the technical report was completed by September 1 in order to honor the request made by SED for this product. Other project deadlines also have been met.

Thus, although formal evaluations were not included as part of the project's design, the numerous check points and cross-checks used throughout the project, together with the informal and unplanned sources of feedback, gave evidence that project activities and products were of high quality. These results were at least consistent with, and often surpassed expectations.

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APPENDICES

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New York State College of Agriculture and Life Sciences
a Statutory College of the State University
Cornell University
Department of Education
Stone Hall
Ithaca, N. Y. 14853

Cornell Institute for
Occupational Education
Telephone 607-256-6515

Occ. Ed. Region ____________

ISSOE Coordinator ____________

TEACHERS USING ISSOE CATALOGS 1980-1931

Teacher's Name	School Name	Name of First Line Administrator Above Teacher

(Use Ditto Marks Where Helpful)

Dear

This letter follows our telephone conversation concerning a request for the names of ISSOE teachers in your region.

Would you please give us a list of the teachers in your region who are using one of the ISSOE Catalogs or plan to use an ISSOE Catalog that will be ready this year. We would also like to have the name of the school and of the administrator who is the teacher's immediate supervisor at his or her school. A form is enclosed for this information. There is a separate page for teachers of each subject; that is, all the Cosmetology teachers on one page, another page for teachers of Auto Body Repair, etc. (If you have no teachers in an area, just write "NONE" on that page.) If you already have this information in another form, please feel free to duplicate your present lists and send to us.

The purpose of this request is to help us select a representative sample from these teachers and administrators throughout the state to participate in a short written questionnaire concerning the problems that arise in teaching within a competency-based format and the solutions that have been found helpful. Please be assured that no names will be requested on the questionnaires. Replies will be anonymous.

Thank you in advance for your valuable assistance in this effort.

Sincerely,

Dennis R. Ridley
Research Associate

Mary Margaret Carmichael
Research Associate

DRR/MMC/ls

cc: R. Frank
K. DeCerce
Area Facilitator
____

Breakdown of Teacher Sample by Region and Subject Matter

Subject Matter	Number	Region	Number
Cosmetology	45	1W	22
Automotive Mechanics	29	1E	7
Practical Nursing	27	2	14
Electrical Trades	13	3	16
Machine Shop	13	4	10
Small Engine Repair	13	5	6
Combined Welding	12	6	29
Health Service Occupations	12	7	16
Auto Body Repair	11	8	21
Conservation	11	9	27
Agricultural Mechanization	8	10	14
Carpentry	7	11	18
Retail Merchandising	7	12	15
Food Occupations	6	12C	9
Plumbing	3	13	15
Other (various fields)	11		

Domain I. Administrator Support

Category 1. Support and positive attitude

1. Level of enthusiasm and support for innovation (1)
2. Sufficient time to commit to innovation (3)
3. Effect of administrator inconvenience (13)
4. Compatibility of goals of innovation with schools/teachers (29)
5. Willingness to modify longstanding practices to accommodate innovation's requirements (31)

Category 2. Personal interaction

1. Face-to-face interaction and accessibility (10; 16)
2. Rapport and encouragement (11)
3. Timely response to teachers' problems (14)
4. Adequate feedback to teachers (15)
5. Alleviates perceived threat to teachers (28)
6. Monitors teachers' level of expectation (30)

Category 3. General knowledge of implementation

1. Knowledge of innovation in general and its specific applications (7)
2. Awareness of importance of teachers' problems/concerns (19)

Category 4. Knowledge of teacher behaviors

1. Understanding of teacher behavior required by the innovation (4)
2. Realistic about time teachers need to adjust to the innovation (5)
3. Provides practical information teachers can apply to pedagogy (6)
4. Knows which role-behaviors teachers are expected to maintain/ change (8; 9)
5. Links program objectives to practice (27)

Category 5. Administrative action

1. Provides logistical support in solving teachers' problems (12)
2. Provides for advocacy of innovation by experienced teachers (18)
3. Uses meeting time productively (21)
4. Provides a mechanism for modifying the program to meet individual needs (25)
5. Careful advance planning (3)
6. Provides plans to cope with emergencies (34)
7. Provides training/orientation for newcomers (32)

Domain 2. Historical perspectives

Category 1. Effects of previous unsuccessful innovation (1)

Category 2. Effects of previous unsuccessful implementation efforts (2)

Category 3. Effects of censure of other teachers (3)

Category 4. Effects of previous innovations on teachers' careers (4)

Category 5. Effects of traditional practices (5)

Domain 3. Resources

Category 1. Funding of programs (1)

Category 2. Timeliness/adequacy of materials delivery (2)

Category 3. Quality of teaching materials (3)

Category 4. Public relations (4)

Category 5. Qualifications of training personnel (5)

Category 6. Qualifications of management personnel (6)

Category 7. Usefulness of workshops (11)

Category 8. Availability of "troubleshooters" (12)

Domain 4. Authority and perceived guidelines

Category 1. Guidelines of how modifiable each component of the innovation is (1)

Category 2. Specifications of individual responsibilities (2)

Category 3. General understanding of how/where to report specific concerns (3)

Category 4. Appropriate delegation of responsibility.

Category 5. Provinces of authority clear; minimum of decision conflicts (5)

Category 6. Effective administrative communication (6)

Domain 5. Professional Integrity

Category 1. Perception of Inservice training

1. Quality of inservice training (1)
2. Suitable variety of inservice training (3)
3. Sufficient time on inservice training (4)

Category 2. Perceived role in authority structure

1. Opportunity for teacher input on important decisions (2)
2. Recognition of implementation efforts (5)
3. Relationship between past work and implementation (12)

Category 3. Perceived benefits to students

1. Clarity of student benefits (6)

Category 4. Attitude to program

1. Perception of the program's relative advantage (9)
2. Perception of the program; response to teachers' needs (14)
3. Understanding the program's goals (16)
4. Adequate peer support (17)

Category 5. Teaching behavior, skills and patterns

1. Awareness of teachers' sense of professionalism/grading (7)
2. Ease of changing teacher behavior (8)
3. Teacher awareness of the effect of change on the classroom (13)
4. Effect of fatigue (15)

Visit of Steve Farrar - Thursday, January 29, 1981

I. Activities for the Day

First priority

1. Read and react to our domain specifications:

   Are they adequate?
   Are there any major omissions?
   Is there extraneous material?

   Comment: Feel free to make red marks all over the material

2. Read survey items and rate them in terms of:

   a. theoretical importance
   (Regardless of the technical characteristics of items, how important is the concept as reflected in the literature.)

   b. fit between the domains and the items
   (Are there major concepts which are not measured, or measured inadequately?)

   Comment: Try to reduce the total item list by one-half according to these criteria. Use a 3-point scale for (a) such as: "Definitely relevant," "marginally relevant," and "not relevant," or whatever makes sense. Also, feel free to make red marks all over the forms.

3. Suggestions for other items, if needed:

   a. if domains are not exhaustive, suggest items to measure those areas not covered;
   b. if domains not thoroughly tested, also suggest items to cover.

   Comment: If it is too time-consuming to write actual items, just suggest the concepts that need to be measured. Then come back to this task if you have time.

Second priority

1. Select items from the total item pool which are best suited for an administrator survey.

2. Make up new items for an administrator survey, if needed. Again, if this takes too much time, just suggest the concepts to be measured, and come back to writing items if there is time.

Third priority: Interact with project staff to solve specific problems:

1. Make suggestions for how to assess administrators. (Mailed survey; telephone interview of reactions to summary of technical report; combination of these?)

2. Make suggestions on how to establish a baseline re teachers' attitudes toward administrators and administrative action in general. (react to suggested items; suggest other techniques)

Comment: Feel free to bring up other technical or conceptual issues, and your ideas on them.

Last priority: Review individual items in terms of their technical adequacy.

Comment: Do this only if you have time. Or, keep this in the back of your mind and make relevant comments on items as they occur to you while doing other tasks.

II. Schedule for the day

1. Meet with Dennis Ridley and Mary Margaret between 9:00 and 9:30 a.m. for outline of activities and explanation.

2. Work independently in 14 Stone as long as you need (2:00 or 3:00 p.m.).

3. Meet with Dennis Ridley and Mary Margaret Carmichael around 1:00 to discuss the third priority area, and to discuss other material, as necessary.

4. Dennis has to leave around 2:00 for a dentist appointment. Steve can meet with Mary Margaret Carmichael after that, as necessary.

5. Steve should not regard himself as a hostage. He can leave and take materials with him to send back any time within a week or so.

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CIOE

Managing ISSOE Programs

CBVE Implementation

Teacher Survey

CORNELL
INSTITUTE FOR
OCCUPATIONAL EDUCATION

ISSOE/CBVE--TEACHER SURVEY

Directions

This survey has two parts. Part I asks for you to agree or disagree with several statements. Please circle the answer that best reflects your frank opinion. Part II asks several background questions to aid in interpreting the results.

Please feel free to add any additional comments you might have in the space provided on the last page.

Thank you again for your help.

#___

1

I. TEACHER RATINGS

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Too many conflicting decisions have been made regarding ISSOE/CBVE........	4	3	2	1
2. I know where to seek assistance in ISSOE/CBVE when I need help...........	4	3	2	1
3. My administrator provides a constructive atmosphere for discussing any problem I have in implementing ISSOE/CBVE............................	4	3	2	1
4. Teachers should be given released time to learn how to use ISSOE/CBVE........	4	3	2	1
5. Other teachers gave me a lot of support when I got involved in ISSOE/CBVE..............................	4	3	2	1
6. Teachers who are skeptical tend to hurt the chances of a new educational program............................	4	3	2	1
7. I have ample opportunities to discuss ISSOE/CBVE with my fellow staff members..............................	4	3	2	1
8. My administrator lacks commitment to a performance-based curriculum..........	4	3	2	1
9. In general, I have been pleased with the administration of educational programs............................	4	3	2	1
10. I do not get enough informal support on ISSOE/CBVE from my local administrator............................	4	3	2	1

(over)

		Strongly Agree	Agree	Disagree	Strongly Disagree	
11.	I have found workshops a valuable source of information on how to use ISSOE/CBVE	4	3	2	1	____
12.	Many teachers are willing to modify the grading practices they are accustomed to	4	3	2	1	____
13.	Any obvious needs for changes in our ISSOE/CBVE curriculum would be recognized and acted on by administrators on a statewide level	4	3	2	1	____
14.	My administrator has enough knowledge of ISSOE/CBVE to evaluate my work in it	4	3	2	1	____
15.	Newcomers to ISSOE/CBVE are given thorough orientation	4	3	2	1	____
16.	I believe that performance objectives can give an adequate picture of a student's technical skills	4	3	2	1	____
17.	My input into ISSOE/CBVE has been sought on matters which directly affect me	4	3	2	1	____
18.	My administrator makes a special point of finding out my concerns regarding ISSOE/CBVE	4	3	2	1	____
19.	My local administrator actively supports ISSOE/CBVE	4	3	2	1	____
20.	I believe that ISSOE/CBVE helps produce a higher caliber of graduate	4	3	2	1	____
21.	The ISSOE/CBVE budget is adequate to meet the conditions that will arise	4	3	2	1	____
22.	In our school most teachers are willing to give new programs a try	4	3	2	1	____
23.	Teachers who want to be involved in ISSOE/CBVE are given the opportunity	4	3	2	1	____
24.	From the first it was clear how I fit into ISSOE/CBVE	4	3	2	1	____

	Strongly Agree	Agree	Disagree	Strongly Disagree
25. ISSOE/CBVE should provide more time for inservice training for teachers..	4	3	2	1
26. Educational innovations often sound more convincing on paper than they turn out to be in reality............	4	3	2	1
27. The ISSOE/CBVE curriculum reflects what teachers think should be taught in the classroom....................	4	3	2	1
28. Being involved in ISSOE/CBVE has shown me the aspects of my previous teaching I should continue...........	4	3	2	1
29. It would be very helpful to have a full-time "troubleshooter" in ISSOE/CBVE..............................	4	3	2	1
30. I have received sufficient teaching aids so students can work at their own pace in the ISSOE/CBVE program...	4	3	2	1
31. ISSOE/CBVE is often presented too theoretically.......................	4	3	2	1
32. A teacher's professional judgment is respected in ISSOE/CBVE.............	4	3	2	1
33. My administrator doesn't realize how long it takes for a teacher to adjust to an innovation like ISSOE/CBVE.....	4	3	2	1
34. If necessary, my administrator would arrange for me to meet with other teachers who are successful in implementing ISSOE/CBVE..................	4	3	2	1
35. ISSOE/CBVE is too complex and bureaucratic.............................	4	3	2	1
36. Lead teachers or team leaders need more training in helping teachers adjust to ISSOE/CBVE..................	4	3	2	1
37. My local administrator is ready and willing to work together with teachers regarding ISSOE/CBVE.............	4	3	2	1
38. Meetings on ISSOE/CBVE are generally unproductive........................	4	3	2	1

(over)

	Strongly Agree	Agree	Disagree	Strongly Disagree	
39. ISSOE/CBVE makes it easier to teach effectively	4	3	2	1	
40. There is no special recognition for participating in ISSOE/CBVE in my region	4	3	2	1	
41. The communications I get on ISSOE/CBVE don't give me the information I really need	4	3	2	1	
42. My administrator understands how ISSOE/CBVE should be implemented	4	3	2	1	
43. The materials supplied by the ISSOE/CBVE program have been appropriate for my classroom	4	3	2	1	
44. My local administrator knows the everyday details of using ISSOE/CBVE in the classroom	4	3	2	1	
45. More should be done to inform local employers about ISSOE/CBVE	4	3	2	1	
46. The practical classroom needs of teachers in ISSOE/CBVE are of concern to my administrator	4	3	2	1	
47. I can go to my local administrator almost any time with my problems and concerns about ISSOE/CBVE	4	3	2	1	
48. ISSOE/CBVE helps me maintain my teaching standards at a high level	4	3	2	1	
49. A brochure that would tell parents about ISSOE/CBVE would be very helpful	4	3	2	1	
50. There is too much extra work involved in teaching with ISSOE/CBVE	4	3	2	1	
51. ISSOE/CBVE materials do not accurately reflect teachers' input	4	3	2	1	
52. Teachers often think a new program will help their careers	4	3	2	1	
53. Teachers need more opportunities to observe other teachers in their own subject using ISSOE/CBVE	4	3	2	1	

		Strongly Agree	Agree	Disagree	Strongly Disagree
54.	I have found no real problems in my getting all the supplies that a new program like ISSOE/CBVE requires.....	4	3	2	1
55.	Resource people are usually on hand to help a teacher get started using ISSOE/CBVE...........................	4	3	2	1
56.	ISSOE/CBVE looks like it was planned by people with little experience teaching occupational subjects.......	4	3	2	1
57.	I was adequately trained in ISSOE/CBVE................................	4	3	2	1
58.	Competency based educational programs go too much against traditional practices to have a good chance for success................................	4	3	2	1
59.	I have sufficient freedom to use ISSOE/CBVE in my own way............	4	3	2	1
60.	Teacher's problems in ISSOE/CBVE are usually handled efficiently..........	4	3	2	1

(over)

#___

2

II. Background Information

1. Subjects you currently teach with ISSOE catalogs. Check all that apply:

_____ Small Engine Repair
_____ Plumbing
_____ Machine Shop
_____ Cosmetology
_____ Comb. Welding
_____ Auto Body Repair
_____ Tractor Mechanics
_____ Conservation
_____ Pract. Nursing
_____ Retail Merch.

_____ Health Serv. Occup.
_____ Electrical Trades
_____ Bricklayer
_____ Automotive Mechanics
_____ Carpentry
_____ Food Occupations
_____ Other catalog (specify) _____________________
_____ Not teaching with ISSOE catalog

2. Type of school where you are currently teaching. Check one:

(1)_____ BOCES
(2)_____ 4-year Vocational-Technical High School
(3)_____ Traditional High School
(4)_____ Other (Please specify) _____________________

3. Total number of years (to nearest year) you have been teaching full time (any subject/any level):

_____ Years

4. Total number of years (to nearest year) associated with ISSOE (curriculum development and/or using ISSOE catalogs).

_____ 1 year
_____ 2 years
_____ 3 years
_____ 4 years
_____ 5 years
_____ 6 or more years

5. How have you been involved in ISSOE? Check one:

(1)_____ Teacher
(2)_____ Teacher and team leader
(3)_____ Lead teacher
(4)_____ Other, (Please specify) _____________________

6. Your sex:

(1)_____ Male
(2)_____ Female

7. Your age:

(1)_____ 20-29
(2)_____ 30-39
(3)_____ 40-54
(4)_____ 55 or older

8. Approximately how many students are enrolled in each of your classes in which you currently use ISSOE catalogs?

	Number of Students				
Name of class	15 or less	16 - 25	26 - 35	36 or more	
______	___	___	___	___	(30)
______	___	___	___	___	
______	___	___	___	___	
______	___	___	___	___	
______	___	___	___	___	

9. Are you a participant in the Cornell/ISSOE field test of the student reporting system? Check one:

(1)_____ Yes
(2)_____ No
(3)_____ Not sure

10. Are you a participant in the SED (State Education Department) field test involving writing lesson plans and evaluating ISSOE catalogs? Check one:

(1)_____ Yes
(2)_____ No
(3)_____ Not sure

ADDITIONAL COMMENTS, IF ANY (OPTIONAL)

(over)

Thank you for your help in completing this survey. Please use the enclosed postage paid envelope for your convenience in mailing.

* * * * *

This project was carried out by the Cornell Institute for Occupational Education, a component of the New York State Research Coordinating Unit, Division of Occupational Education Planning and Information, Research and Evaluation, with funds provided by the Division of Occupational Education Instruction, under the terms of Grant No. 80-3A-1113GS funded from the Vocational Education Amendments of 1976. The project is directed by Dennis R. Ridley, Research Associate at the Institute for Occupational Education.

* * * * *

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Cornell Institute for Occupational Education
Telephone 607-256-6515

TO: New York State Teachers Receiving 1980-81 ISSOE Catalogs

FROM: Dennis R. Ridley DR and Robert M. Frank RM

RE: Implementation of Competency Based Vocational Education (CBVE) Through ISSOE

DATE: March 18, 1981

Enclosed is a survey of teachers' views on the ways that Competency Based Vocational Education (CBVE) and the Instructional Support System for Occupational Education (ISSOE) have been implemented. It is a part of a project being conducted at the Institute for Occupational Education at Cornell University on the problems and solutions that have been found during the implementation of any new education program. Your responses will help us better understand the process of implementation.

This survey is being sent to all the teachers in New York State who have received 1980-81 ISSOE catalogs. A related questionnaire is also being sent to administrators in occupational education. Since we are asking for your opinions, there are no right or wrong answers. Your responses will be kept completely confidential. Your name is never used--all responses are coded.

There are two parts to the survey. Part I asks you to agree or disagree with several statements. Please circle the answer that best reflects your frank opinion. Part II asks several background questions to aid in interpreting the results.

When you complete the survey, please mail it back to us in the enclosed pre-addressed, postage paid envelope. We would like to receive them by April 6, 1981. Thank you for your help.

If you have any questions, feel free to call either one of us.

Robert M. Frank
Institute Coordinator
for ISSOE Projects

Dennis R. Ridley
Research Associate

CIOE

Managing ISSOE Programs

CBVE Implementation

Administrator Survey

CORNELL
INSTITUTE FOR
OCCUPATIONAL EDUCATION

#___

ISSOE/CBVE IMPLEMENTATION -- ADMINISTRATOR SURVEY

Directions

This survey has two parts. Part I asks for background information to aid in interpreting the results. Part II asks for your ratings of several factors which may be relevant to implementation of competency based vocational education (CBVE) programs such as ISSOE. By giving us ratings of their importance to teachers, you will help us identify the most important factors.

Please feel free to add any additional comments you might have in the space provided on the last page.

Thank you again for your help.

I. BACKGROUND INFORMATION

1. Type of school in which you are administrator (check one):

    1. _____ BOCES
    2. _____ 4-year Vocational-Technical High School
    3. _____ Traditional High School
    4. _____ Other (Please specify) ______________________

2. Number of years you have been an administrator (check one):

    1. _____ 1 - 2 years
    2. _____ 3 - 5 years
    3. _____ 6 - 10 years
    4. _____ 11 or more years

3. How would you characterize the extent of your involvement with ISSOE/CBVE as compared to all your other duties, concerns and responsibilities? (Check one)

    1. _____ A great deal of my administrative time and attention
    2. _____ A moderate or average amount of my administrative time
    3. _____ Relatively little of my administrative time

4. Approximately how many occupational teachers are under your guidance and/or supervision?

    _____ (approximate number)

5. Approximately how many of your teachers do you estimate are currently involved with or using ISSOE catalogs?

    _____ (approximate number)

(over)

II. ADMINISTRATOR RATINGS

How Important are each of the following in a Competency Based Vocational Education (CBVE) program such as ISSOE? Please circle one choice for each statement.

ADEQUATE RESOURCES	Very Important	Important	Somewhat Important	Not Important
1. The adequacy of program funding....	4	3	2	1
2. The delivery of materials at needed times..........................	4	3	2	1
3. The quality of the teaching materials..........................	4	3	2	1
4. The adequacy of the public relations used to promote the new program..........................	4	3	2	1
5. The availability of qualified personnel for the training of teachers..........................	4	3	2	1
6. The inclusion of useful workshops..	4	3	2	1
7. The availability of qualified "troubleshooters" who handle problems as they arise................	4	3	2	1
PROFESSIONAL CONCERNS OF TEACHERS				
8. The teacher's perception of the in-service training offered for the program..........................	4	3	2	1
9. The teacher's perception of their role in relation to others of authority in the new program.......	4	3	2	1
10. The teacher's perceptions of the benefits the program offers to students..........................	4	3	2	1
11. The teacher's attitudes concerning the relative advantages of the program..........................	4	3	2	1
12. The teacher's perception of how the new program will affect their teaching skills and practices......	4	3	2	1

PAST EXPERIENCES	Very Important	Important	Somewhat Important	Not Important	
13. The effect on the teacher of previous successful or unsuccessful educational innovations...........	4	3	2	1	
14. The effect of criticism or praise from other teachers...............	4	3	2	1	
15. The effect of traditional teaching practices on teachers' willingness to change to a new method.	4	3	2	1	
ADMINISTRATIVE ROLE					
16. The administrator's support and attitude toward the program.......	4	3	2	1	
17. The interaction and rapport between the administrator and the teacher..........................	4	3	2	1	
18. The administrator's general knowledge about implementation and its specific applications.............	4	3	2	1	
19. The administrator's knowledge of teaching skills upon which to provide practical information to teachers.........................	4	3	2	1	
20. The administrator's efficiency in providing such services as productive meetings, useful training programs, etc.....................	4	3	2	1	
21. The teacher's understanding of the structure of authority such as knowing how and where to report specific concerns.................	4	3	2	1	

ADDITIONAL COMMENTS, IF ANY (OPTIONAL)

(over)

Thank you for your help in completing this survey. Please use the enclosed postage paid envelope for your convenience in mailing.

If you would like to have a summary of the project mailed to you, please check the following box.

☐ Yes, please mail a summary of the project.

* * * * *

This project was carried out by the Cornell Institute for Occupational Education, a component of the New York State Research Coordinating Unit, Division of Occupational Education Planning and Information, Research and Evaluation, with funds provided by the Division of Occupational Education Instruction, under the terms of Grant No. 80-3A-1113GS funded from the Vocational Education Amendments of 1976. The project is directed by Dennis R. Ridley, Research Associate at the Institute for Occupational Education.

* * * * *

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Cornell Institute for
Occupational Education
Telephone 607-256-6515

TO: New York State Administrators with Occupational Education Programs

DR RMF

FROM: Dennis R. Ridley and Robert M. Frank

RE: Implementation of Competency Based Vocational Education (CBVE)

DATE: March 25, 1981

Enclosed is a survey of administrators' views on implementation of Competency Based Vocational Education (CBVE) and the Instructional Support System for Occupational Education (ISSOE). Administrators' responses to this questionnaire will be very useful in planning future programs, and we value your perspective on this topic. The survey is a part of a project being conducted at the Institute for Occupational Education at Cornell University on the problems and solutions that have been found during the implementation of many new education programs. Your responses will help us better understand the process of implementation.

This survey is being sent to all administrators in New York State who have occupational education teachers using ISSOE catalogs. A related questionnaire is also being sent to the teachers who are using ISSOE catalogs. We are asking for your opinions, and your responses will be kept completely confidential. Your name is never used--all responses are coded.

There are two parts to the survey. Part I asks several background questions to aid in interpreting results. Part II asks you to select the degree of importance you attach to several factors related to implementation of a new program such as ISSOE. Please mark the answer that reflects your opinion and experiences.

We would be pleased to send you a summary of the project results. If you wish to receive the summary, please indicate this on page 3 of the survey.

When you complete the survey, please mail it back to us in the enclosed pre-addressed, postage paid envelope. We would like to receive the forms by April 15, 1981. Thank you for your help.

If you have any questions, feel free to call either one of us.

Robert M. Frank Institute Coordinator for ISSOE Projects	Dennis R. Ridley Research Associate

Agreement Between Domains and Factors

Domain	Factor
I. Administrator Support	
My local administrator actively supports ISSOE/CBVE.	1
My local administrator is ready and willing to work together with teachers regarding ISSOE/CBVE.	1
My administrator lacks a real commitment to a performance-based curriculum.	1
My administrator provides a constructive atmosphere for discussing any problem I have in implementing ISSOE/CBVE.	1
My administrator makes a special point of finding out my concerns regarding ISSOE/CBVE.	1
I do not get enough informal support on ISSOE/CBVE from my local administrator.	1
ISSOE/CBVE looks like it was planned by people with little experience teaching occupational subjects.	2;5
The practical classroom needs of teachers in ISSOE/CBVE are of concern to my administrator.	1
My local administrator knows the everyday details of using ISSOE/CBVE in the classroom.	1
My administrator has enough knowledge of ISSOE/CBVE to evaluate my work in it.	1
My administrator understands how ISSOE/CBVE should be implemented.	1
My administrator doesn't realize how long it takes for a teacher to adjust to an innovation like ISSOE/CBVE.	1
I can go to my local administrator almost any time with my problems and concerns about ISSOE/CBVE.	1
Meetings on ISSOE/CBVE are generally productive.	2;4
Newcomers to ISSOE/CBVE are given a thorough orientation.	4

Domain	Factor
I. Administrator Support (cont.)	
If necessary, my administrator would arrange for me to meet with other teachers who are successful in implementing ISSOE/CBVE.	1
Any obvious needs for changes in our ISSOE curriculum would be recognized and acted on.	N
II. Past Experiences	
Educational innovations often sound more convincing on paper than they turn out to be in reality.	2
Teachers who are skeptical tend to hurt the chances of a new educational program.	8
Teachers often think a new program will help their careers.	N
Competency based educational programs go too much against traditional practices to have a good chance for success.	2
III. Resources	
The ISSOE/CBVE budget is adequate to meet the needs that will arise.	6
I have found no real problems in my getting all the supplies that a new program like ISSOE/CBVE requires.	1;6
I have received sufficient teaching aids so students can work at their own pace in the ISSOE/CBVE program.	6
The materials supplied by the ISSOE/CBVE program have been appropriate for my classroom.	2
A brochure that would tell parents about ISSOE would be very helpful.	3
More should be done to inform local employers about ISSOE/CBVE.	3
Resource people are usually on hand to help a teacher get started using ISSOE/CBVE.	6
I have found workshops a valuable source of information on how to use ISSOE/CBVE.	4
It would be very helpful to have a full-time "troubleshooter" in ISSOE/CBVE.	3

Domain	Factor
IV. Authority and Perceived Guidelines	
I have sufficient freedom to use ISSOE/CBVE in my own way.	7
From the first it was clear how I fit into ISSOE/CBVE.	4
I know where to seek assistance in ISSOE/CBVE when I need help.	4
ISSOE/CBVE is too complex and bureaucratic.	2;5
Teacher's problems in ISSOE/CBVE are usually handled efficiently.	1
Being involved with ISSOE/CBVE has shown me the aspects of my previous teaching I should continue.	7
The communications I get on ISSOE/CBVE don't give me the information I really need.	4
Too many conflicting decisions have been made regarding ISSOE/CBVE.	5
V. Teachers' Professional Concerns	
Lead teachers or team leaders need more training in helping teachers adjust to ISSOE/CBVE.	3
Teachers should be given released time to learn how to use ISSOE/CBVE.	3
ISSOE/CBVE should provide more time for inservice training for teachers	3
I was adequately trained in ISSOE/CBVE.	4
ISSOE/CBVE materials accurately reflect teachers' input.	2
A teacher's professional judgment is respected in ISSOE/CBVE.	N
My input into ISSOE/CBVE has been sought on matters which directly affect me.	7
There is no special recognition for participating in ISSOE/CBVE in my region	N
The ISSOE/CBVE curriculum reflects what teachers think should be taught in the classroom.	7
Teachers who want to be involved in ISSOE/CBVE are given the opportunity.	N

Domain	Factor
V. Teachers' Professional Concerns (cont.)	
I believe that performance objectives can give an adequate picture of a student's technical skills.	2
I believe that ISSOE/CBVE helps produce a higher caliber of graduate.	2;3
ISSOE/CBVE is often presented too theoretically.	N
Other teachers gave me a lot of support when I got involved in ISSOE/CBVE.	5
Teachers need more opportunities to observe other teachers in their own subject using ISSOE/CBVE.	3
ISSOE/CBVE helps me maintain my teaching standards at a high level.	2;5
I have ample opportunities to discuss ISSOE/CBVE with my fellow staff members.	N
There is too much extra work involved in teaching with ISSOE/CBVE.	2
ISSOE/CBVE makes it easier to teach effectively.	2/9
In our school most teachers are willing to give new programs a try.	8

Factor 1. Administrative Support/Expertise

My local administrator actively supports ISSOE/CBVE.	.75
My local administrator is ready and willing to work together with teachers regarding ISSOE/CBVE.	.74
I can go to my local administrator almost any time with my problems and concerns about ISSOE/CBVE.	.72
The practical classroom needs of teachers in ISSOE/CBVE are of concern to my administrator.	.70
My administrator understands how ISSOE/CBVE should be implemented.	.68
My administrator makes a special point of finding out my concerns regarding ISSOE/CBVE.	.67
My administrator lacks commitment to a performance-based curriculum.	- .66
My administrator provides a constructive atmosphere for discussing any problem I have in implementing ISSOE/CBVE.	.66
My administrator has enough knowledge of ISSOE/CBVE to evaluate my work in it.	.65
I do not get enough informal support on ISSOE/CBVE from my local administrator.	- .64
My local administrator knows the everyday details of using ISSOE/CBVE in the classroom.	.62
My administrator doesn't realize how long it takes for a teacher to adjust to an innovation like ISSOE/CBVE.	- .56
If necessary, my administrator would arrange for me to meet with other teachers who are successful in implementing ISSOE/CBVE.	.43
In general, I have been pleased with the administration of educational programs.	.42
I have found no real problems in my getting all the supplies that a new program like ISSOE/CBVE requires.	.36
Teacher's problems in ISSOE/CBVE are usually handled efficiently.	.37

Factor 2. Effects of Using ISSOE in the classroom

There is too much extra work involved in teaching with ISSOE/CBVE.	- .65
ISSOE/CBVE makes it easier to teach effectively.	.64
ISSOE/CBVE is too complex and bureaucratic.	- .60
I believe that ISSOE/CBVE helps produce a higher caliber of graduate.	.59
ISSOE/CBVE materials do not accurately reflect teachers' input.	- .58
Competency based educational programs go too much against traditional practices to have a good chance for success.	- .46
ISSOE/CBVE looks like it was planned by people with little experience teaching occupational subjects.	- .45
ISSOE/CBVE helps me maintain my teaching standards at a high level.	.44
Educational innovations often sound more convincing on paper than they turn out to be in reality.	- .39
The materials supplied by the ISSOE/CBVE program have been appropriate for my classroom.	.38
I believe that performance objectives can give an adequate picture of a student's technical skills.	.37
Meetings on ISSOE/CBVE are generally unproductive.	- .35

Factor 3. Teacher Needs: Recommendations for Improvements

ISSOE/CBVE should provide more time for inservice training for teachers.	.69
It would be very helpful to have a full-time "Trouble-shooter" in ISSOE/CBVE.	.59
Teachers should be given released time to learn how to use ISSOE/CBVE.	.57
Teachers need more opportunities to observe other teachers in their own subject using ISSOE/CBVE.	.57
More should be done to inform local employers about ISSOE/CBVE.	.49

A brochure that would tell parents about ISSOE/CBVE would be very helpful.	.47
Lead teachers or team leaders need more training in helping teachers adjust to ISSOE/CBVE.	.40
I believe that ISSOE/CBVE helps produce a higher caliber of graduate.	.38

Factor 4. Teachers' Orientation and Training Experience

I was adequately trained in ISSOE/CBVE.	.57
The communications I get on ISSOE/CBVE don't give me the information I really need.	- .52
I know where to seek assistance in ISSOE/CBVE when I need help.	.50
Newcomers to ISSOE/CBVE are given thorough orientation.	.48
Meetings on ISSOE/CBVE are generally unproductive.	- .46
I have found workshops a valuable source of information on how to use ISSOE/CBVE.	.44
From the first it was clear how I fit into ISSOE/CBVE.	.35

Factor 5. Program Validity

Other teachers gave me a lot of support when I got involved in ISSOE/CBVE.	.47
ISSOE/CBVE looks like it was planned by people with little experience teaching occupational subjects.	- .40
Too many conflicting decisions have been made regarding ISSOE/CBVE.	- .40
ISSOE/CBVE is too complex and bureaucratic.	- .37
In general, I have been pleased with the administration of educational programs.	.35
ISSOE/CBVE helps me maintain my teaching standards at a high level.	.35

Factor 6. Resource and Materials Availability

I have found no real problems in my getting all the supplies that a new program like ISSOE/CBVE requires.	.60
I have received sufficient teaching aids so students can work at their own pace in the ISSOE/CBVE program.	.60
Resource people are usually on hand to help a teacher get started using ISSOE/CBVE.	.54
The ISSOE/CBVE budget is adequate to meet the conditions that will arise.	.37

Factor 7. Attitude Toward the Program

I have sufficient freedom to use ISSOE/CBVE in my own way.	.52
Being involved in ISSOE/CBVE has shown me the aspects of my previous teaching I should continue.	.50
The ISSOE/CBVE curriculum reflects what teachers think should be taught in the classroom.	.42
My input into ISSOE/CBVE has been sought on matters which directly affect me.	.38

Factor 8. Perception of Other Teachers' Willingness to Change

Teachers who are skeptical tend to hurt the chances of a new educational program.	- .48
Many teachers are willing to modify the grading practices they are accustomed to.	.40
In our school most teachers are willing to give new programs a try.	.35

MANAGING COMPETENCY-BASED VOCATIONAL EDUCATION: A SUMMARY OF SELECTED LITERATURE

The problems of implementing competency-based vocational education (CBVE) programs are essentially those of implementing any change in school policies and practices. This conclusion is supported by a careful review of the existing literature (as presented in a Cornell Institute for Occupational Education technical report which is summarized here). However, there is one crucial difference between CBVE programs and other innovations; that is, CBVE's major emphasis is upon student concerns. The work presented in this report documents the difficulties that arise when resources are inadequate to meet the student-oriented concerns of teachers, administrators, and parents.

This summary deals with only one aspect of implementation problems, that is, those which are most directly related to teachers. Under that category are problems related to the teacher's changing role, competency or training skills, self-esteem, the goals of the innovator, and the approach implementation efforts take.

One problem ("role overload") is that teachers are often expected to change some of their teaching roles and maintain other roles without benefit of the extra time and assistance they need to adjust to the new role. Administrators need to allow sufficient time for teachers to adjust to the new role as well as to learn precisely what the new role will entail. Also, to facilitate this process, face to face interaction and mechanisms for listening to and resolving teacher problems are extremely important.

In implementing competency-based education the teacher's problems of adjustment are made more difficult by certain characteristics unique to the more traditional programs being replaced. These "traditional" characteristics include instructor referenced standards, age/grade structure, time based instruction, evaluation, and teacher training. Briefly, these points were as follows:

- Instructor referenced standards: Teachers need adequate training to adopt criterion referenced grading procedures.
- Age/grade structure: To replace age as the traditional criterion for advancement with more flexible, student-based judgements.
- Time based instruction: Teachers need specific training in classroom management procedures suitable for situations in which they do not gear instruction to the standard 50-minute period.
- Evaluation: Appropriate training is needed for gearing instruction to the completion of specific competencies, and for the additional monitoring activities required.
- Teacher Training: The purpose of teacher training is to develop familiarity with the innovation and shape up the new skills required.

Teachers must be thoroughly prepared to adjust to unfamiliar practices. Some techniques which have been found to be effective are: (1) shared decision making through consultation; (2) workshops and total staff involvement (including administrators); and (3) improved communication between all authority levels within all departments.

The review of teacher related problems resulted in a series of suggestions for use by the administrator or other individuals concerned with implementation of a new program. This list includes:

1. Goals of the innovation should be compatible with former goals.
2. Teachers' role changes and new role practices must be clear.
3. Face to face contact between teachers and administrators (of various levels) should be maintained.
4. Trust-building is essential.
5. Administrator expertise is essential.
6. In-service training for teachers and administrators is necessary.
7. Those who adopt new teaching procedures required by the innovation should be appropriately rewarded.
8. An "advocacy" group of credible and influential teachers can be extremely helpful in maintaining interest and motivation.
9. Implementation problems need immediate attention.
10. The change should be presented as building upon the previous good work of teachers involved in the change.
11. Teachers should not feel threatened by the new program.
12. Tendencies of many people, including teachers, in maintaining the "status quo" should be counteracted with rewards for attempted change.
13. Unrealistically high expectations should be avoided.
14. Teachers who are potential implementors should feel there is an excellent chance for adoption of the innovation.
15. Administrators should be sensitive to and attempt to relieve the fatigue that attends early implementation efforts.
16. The requirements should be simplified as much as possible.
17. All participants must perceive the need for the change.
18. Teachers need continuous help and support during the implementation.
19. Participants must perceive the value of the change over past practices.
20. There is a need for an individual who can identify problem areas soon after they arise.

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